



# **STIC Search Report**

## **Biotech-Chem Library**

**STIC Database Tracking Number**

**TO: David Lukton**  
**Location: Cm1/9B01/9B05**  
**Art Unit: 1653**  
**Wednesday, November 19, 2003**

**Case Serial Number: 09/909077**

**From: Noble Jarrell**  
**Location: Biotech-Chem Library**  
**CM1-6B03**  
**Phone: 305-8743**

**Noble.jarrell@uspto.gov**

### **Search Notes**

Examiner Lukton,  
If you have any questions about the search please contact me.  
Sincerely,  
Noble Jarrell

Access DB#

108661

## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: David Lukton Examiner #: 71263 Date: 11-19-03  
Art Unit: 1653 Phone Number 301 83213 Serial Number: 09-909077  
Mail Box and Bldg/Room Location: \_\_\_\_\_ Results Format Preferred (circle): PAPER DISK E-MAIL  
Mail Box: 9B01; Exr Rm: 9B05

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*

Title of Invention: Novel Imidazolidinones as NS3-serine protease Inhibitors of hepatitis C virus

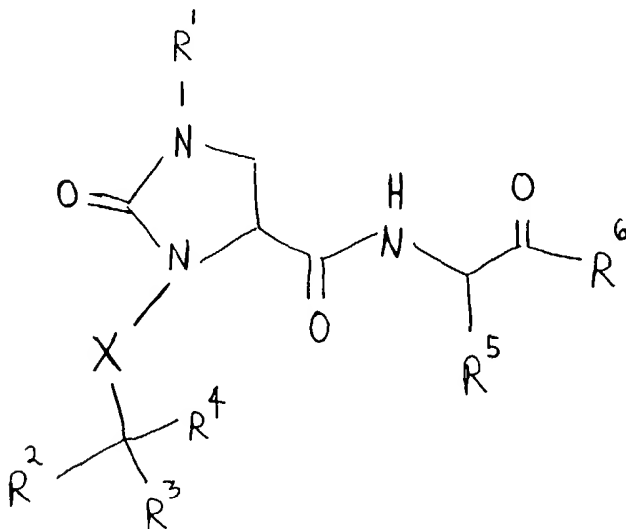
Applicants: ARASAPPAN, ASHOK; PAREKH, TEJAL; NJOROGUE, F. GEORGE;  
Girijavallabhan, Viyyoor Moopil; Ganguly, Ashit K.

Earliest Priority Date: 7/21/00

\*\*\*\*\*

"X" represents a covalent bond or a carbonyl group; and

the remaining substituent variables (R1 - R6) can be anything.



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NOV 19 2003  
STIC

## STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: _____	NA Sequence (#) _____	STN _____
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) _____	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic _____	Dr. Link _____
Date Completed: _____	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: _____	Fulltext _____	Sequence Systems _____
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____
Online Time _____	Other _____	Other (specify) _____



# STIC SEARCH RESULTS FEEDBACK FORM

## Biotech-Chem Library

Questions about the scope or the results of the search? Contact *the searcher or contact:*

Mary Hale, Information Branch Supervisor  
308-4258, CM1-1E01

## Voluntary Results Feedback Form

➤ I am an examiner in Workgroup:  Example: 1610

➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature  
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to STIC/Biotech-Chem Library CM1 - Circ. Desk



Lukton 10/909077

=> d his

FILE 'REGISTRY' ENTERED AT 15:45:48 ON 19 NOV 2003

L1 STR  
L2 3 S L1  
L3 64 S L1 FUL

FILE 'CAPLUS' ENTERED AT 15:58:51 ON 19 NOV 2003

L4 8 S L3  
L5 ( 18)SEA FILE=CAPLUS ABB=ON PLU=ON ("ARASAPPAN A"/AU OR "ARASAPPAN  
L6 ( 15)SEA FILE=CAPLUS ABB=ON PLU=ON ("PAREKH T"/AU OR "PAREKH T N"/  
L7 ( 94)SEA FILE=CAPLUS ABB=ON PLU=ON ("NJORGE F G"/AU OR "NJORGE F  
L8 ( 110)SEA FILE=CAPLUS ABB=ON PLU=ON (L5 OR L6 OR L7)  
L9 9 SEA FILE=CAPLUS ABB=ON PLU=ON L8 AND PROTEASE INHIBIT?/OBI  
L10 1 S L9 AND L4

=> b reg

FILE 'REGISTRY' ENTERED AT 16:03:15 ON 19 NOV 2003  
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Property values tagged with IC are from the ZIC/VINITI data file  
 provided by InfoChem.

STRUCTURE FILE UPDATES: 18 NOV 2003 HIGHEST RN 618359-38-9  
 DICTIONARY FILE UPDATES: 18 NOV 2003 HIGHEST RN 618359-38-9

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

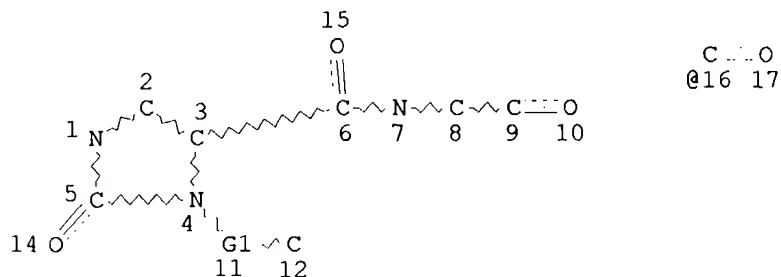
Please note that search-term pricing does apply when  
 conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP  
 PROPERTIES for more information. See STNote 27, Searching Properties  
 in the CAS Registry File, for complete details:  
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=> d que stat 13

L1 STR



REP G1=(0-1) 16  
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 CONNECT IS E2 RC AT 7  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 16

STEREO ATTRIBUTES: NONE  
 L3 64 SEA FILE=REGISTRY SSS FUL L1

100.0% PROCESSED 309 ITERATIONS 64 ANSWERS  
 SEARCH TIME: 00.00.01

=&gt; b cap

FILE 'CAPLUS' ENTERED AT 16:03:54 ON 19 NOV 2003  
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FILE COVERS 1907 - 19 Nov 2003 VOL 139 ISS 21  
 FILE LAST UPDATED: 18 Nov 2003 (20031118/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

'OBI' IS DEFAULT SEARCH FIELD FOR 'CAPLUS' FILE

=&gt; d que nos l4

L1 STR  
 L3 64 SEA FILE=REGISTRY SSS FUL L1  
 L4 8 SEA FILE=CAPLUS ABB=ON PLU=ON L3

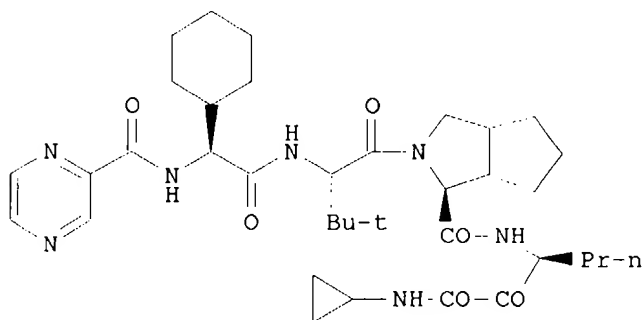
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L4 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN  
 ACCESSION NUMBER: 2002:171885 CAPLUS  
 DOCUMENT NUMBER: 136:232547  
 TITLE: Preparation of peptidomimetic protease inhibitors  
 INVENTOR(S): Babine, Robert Edward; Chen, Shu Hui; Lamar, Jason  
 Eric; Snyder, Nancy June; Sun, Xicheng David; Tebbe,  
 Mark Joseph; Victor, Frantz; Wang, Q. May; Yip, Yvonne  
 Yee Mai; Collado, Ivan; Garcia-Paredes, Cristina;  
 Parker, Raymond Samuel, III; Jin, Ling; Guo, Deqi;  
 Glass, John Irvin  
 PATENT ASSIGNEE(S): Eli Lilly and Company, USA  
 SOURCE: PCT Int. Appl., 424 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 4  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002018369	A2	20020307	WO 2001-US26008	20010831
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, FT, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG,			

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KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU  
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  
AU 2001088318 A5 20020313 AU 2001-88318 20010831  
EP 1320540 A2 20030625 EP 2001-968040 20010831  
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR  
NO 2003000928 A 20030416 NO 2003-928 20030227  
PRIORITY APPLN. INFO.: US 2000-229398P P 20000831  
US 2001-277641P P 20010321  
WO 2001-US26008 W 20010831  
OTHER SOURCE(S): MARPAT 136:232547  
GI



I

AB Peptidomimetic compds. R<sup>9</sup>-L-(NR<sup>8</sup>-R<sup>7</sup>-CO)<sub>n</sub>NR<sup>6</sup>-R<sup>5</sup>-CO-NX-CONR<sup>4</sup>-R<sup>3</sup>-CO-R-CONR<sup>1</sup>R<sup>2</sup>  
[R is a bond or CF<sub>2</sub>; R<sup>1</sup> is H, (un)substituted an aliphatic, cyclic, or aromatic group; R<sup>2</sup>, R<sup>9</sup> are (un)substituted aliphatic, cyclic, or aromatic groups; R<sup>3</sup>,  
R<sup>5</sup>, R<sup>7</sup> are (un)substituted 1,1- or 1,2-cycloalkylene or -heterocyclylene, methylene or ethylene; R<sup>4</sup>, R<sup>6</sup>, R<sup>8</sup> and R<sup>10</sup> are H or an optionally substituted aliphatic group; NX is an (un)substituted cyclic azaheterocyclyl or azaheterocyclenyl having the unsatn. in the ring distal to ring bearing the -R<sup>5</sup>-C(O)-N moiety and to which the -CONR<sup>4</sup>- moiety is attached; L is CO, O<sub>2</sub>C, NR<sup>10</sup>CO, SO<sub>2</sub>, or NR<sup>10</sup>SO<sub>2</sub>; n is 0 or 1] or pharmaceutically acceptable salts or prodrugs were prepared for use as protease inhibitors, particularly as hepatitis C NS3 protease inhibitors. Also provided are pharmaceutical combinations comprising, in addition to one or more HCV serine protease inhibitors, one or more interferons exhibiting anti-HCV activity and/or one or more compds. having anti HCV activity and a pharmaceutically acceptable carrier. Thus, compd I was prepared and assayed for HCV serine protease inhibitory activity in combination with interferons. When used as a single drug treatment, I exhibits an IC<sub>50</sub> of 0.48 μM and interferon-α 2B is 2.19 U.  
IT **402959-83-5P**  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

Lukton 10/909077

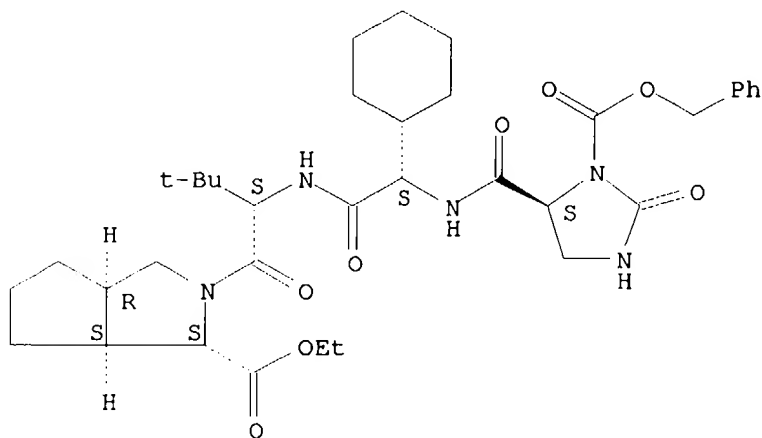
(Reactant or reagent)

(preparation of peptidomimetic protease inhibitors)

RN 402959-83-5 CAPLUS

CN Cyclopenta[c]pyrrole-1-carboxylic acid, (4S)-2-oxo-3-  
[(phenylmethoxy)carbonyl]-4-imidazolidinecarbonyl-(2S)-2-cyclohexylglycyl-  
3-methyl-L-valyloctahydro-, ethyl ester, (1S,3aR,6aS)- (9CI) (CA INDEX  
NAME)

Absolute stereochemistry.



L4 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2002:90018 CAPLUS

DOCUMENT NUMBER: 136:135031

TITLE: Preparation of novel imidazolidinones as NS3-serine  
protease inhibitors of hepatitis C virus

INVENTOR(S): Arasappan, Ashok; Parekh, Tejal; Njoroge, F. George;  
Girijavallabhan, Viyyoor Moopil; Ganguily, Ashit K.

PATENT ASSIGNEE(S): Schering Corporation, USA

SOURCE: PCT Int. Appl., 88 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

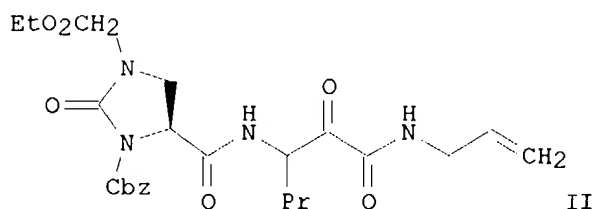
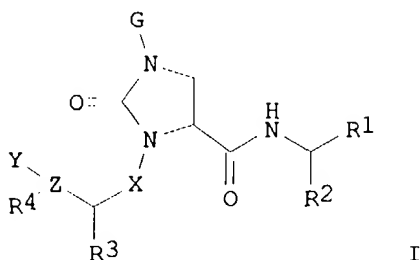
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002008198	A2	20020131	WO 2001-US22828	20010719
WO 2002008198	A3	20020718		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GE, HR, HU, ID, IL, IN, IS, JP, KG, KR, KZ, LC, LK, LR, LT, LU, LV, MA, MD, MG, MK, MN, MX, MZ, NO, NZ, PL, PT, RO, RU, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UZ, VN, YU, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
US 2002102235	A1	20020801	US 2001-909077	20010719



Lukton 10/909077

EP 1301486 A2 20030416 EP 2001-961676 20010719  
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR  
PRIORITY APPLN. INFO.: US 2000-220110P P 20000721  
WO 2001-US22828 W 20010719  
OTHER SOURCE(S): MARPAT 136:135031  
GI



AB Novel imidazolidinones I [R1 = COR5 (R5 = H, OH, alkoxy, amino, CF3, etc.) or B(OR)3 (R = H, alkyl, alkyl, alkenyl, cycloalkyl, heterocycloalkyl, alkoxy, aryloxy, alkylthio, arylthio, amino, amido, ester, carboxylic acid, etc.); Z = O, N or CH; X = CO, CS or alkylene; G = H, (un)substituted alkyl, aryl, heteroalkyl, heteroaryl, alkylaryl or alkylheteroaryl; R2, R3 = any group defined for R; R4 = null, H, alkyl, aryl; Y = H, (un)substituted alkyl, aryl, heteroalkyl, heteroaryl, cycloalkyl, arylalkyl, heteroarylalkyl, etc.], including enantiomers, stereoisomers, rotamers and tautomers, having HCV protease inhibitory activity are disclosed. Thus, compound II (Cbz = benzyloxycarbonyl) was prepared via peptide coupling reaction of H2NCHPrCH(OH)CONHCH2CH:CH2.HCl (preparation given), followed by Dess-Martin oxidation of the hydroxy group.

II showed  $K_i > 50,001$  nM for inhibition of HCV protease.

IT 393546-77-5P 393547-07-4P 393547-29-0P  
393547-31-4P 393547-33-6P 393547-35-8P  
393547-37-0P 393547-39-2P 393547-41-6P  
393547-52-9P 393547-54-1P

RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

```

preparation of novel imidazolidinones as NS3-serine protease inhibitors of
hepatitis C virus)

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RN 393546-77-5 CAPLUS

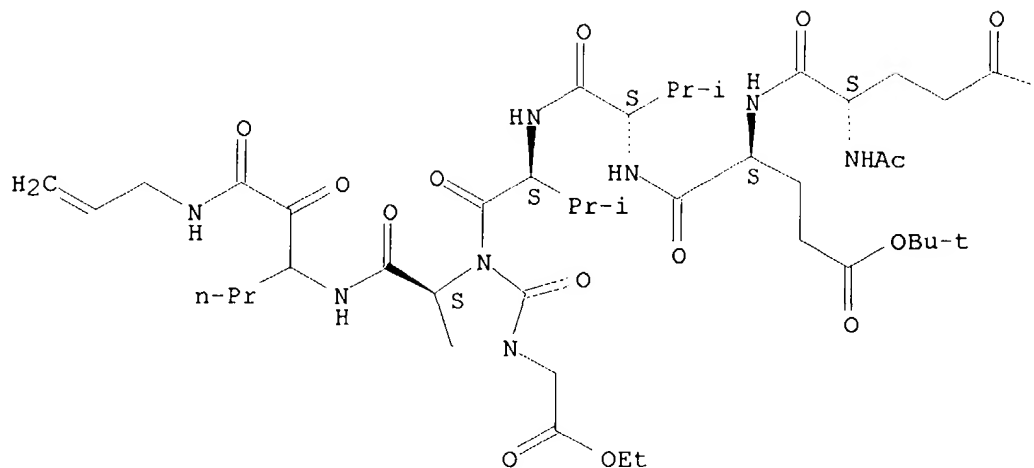
CN L-Valinamide, N-acetyl-L- $\alpha$ -glutamyl-L- $\alpha$ -glutamyl-N-[(1S)-1-  
[[ (5S)-3-(2-ethoxy-2-oxoethyl)-2-oxo-5-[[[1-[oxo(2-  
propenylamino)acetyl]butyl]amino]carbonyl]-1-imidazolidinyl]carbonyl]-2-

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methylpropyl]-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



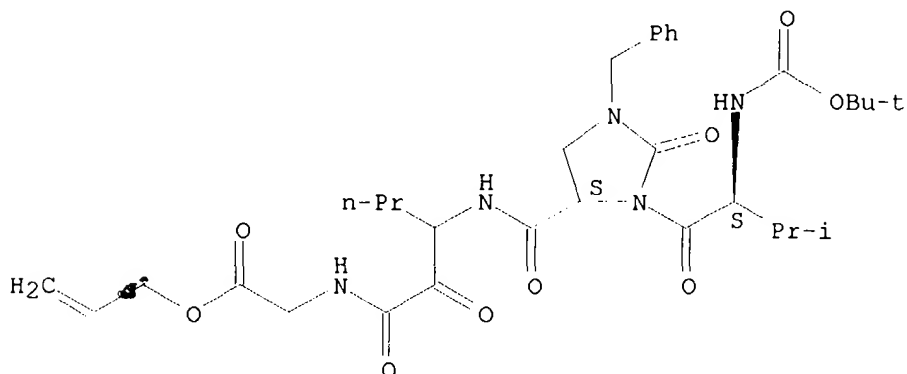
PAGE 1-B

OBu-t

RN 393547-07-4 CAPLUS

CN Glycine, N-[(1,1-dimethylethoxy)carbonyl]-L-valyl-(4S)-2-oxo-1-(phenylmethyl)-4-imidazolidinecarbonyl-3-amino-2-oxohexanoyl-, 2-propenyl ester (9CI) (CA INDEX NAME)

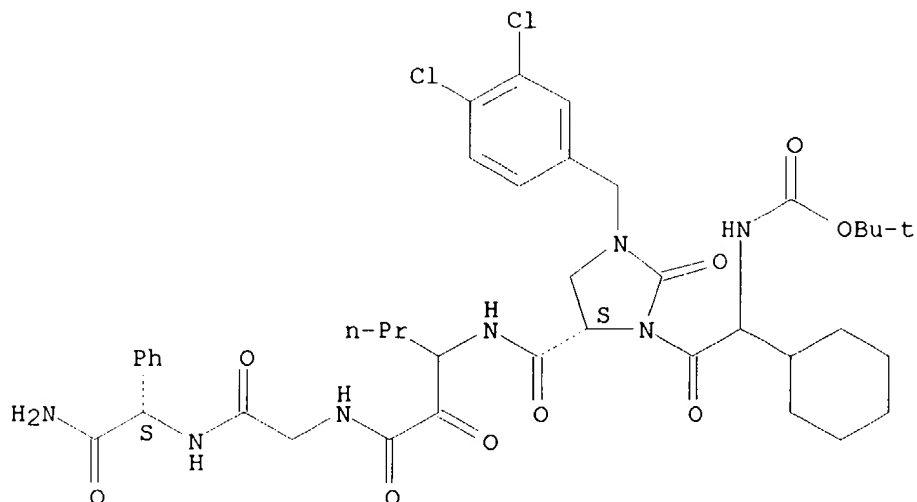
Absolute stereochemistry.



RN 393547-29-0 CAPLUS

CN Glycinamide, 2-cyclohexyl-N-[(1,1-dimethylethoxy)carbonyl]glycyl-(4S)-1-[(3,4-dichlorophenyl)methyl]-2-oxo-4-imidazolidinecarbonyl-3-amino-2-oxohexanoylglycyl-2-phenyl-, (2S)- (9CI) (CA INDEX NAME)

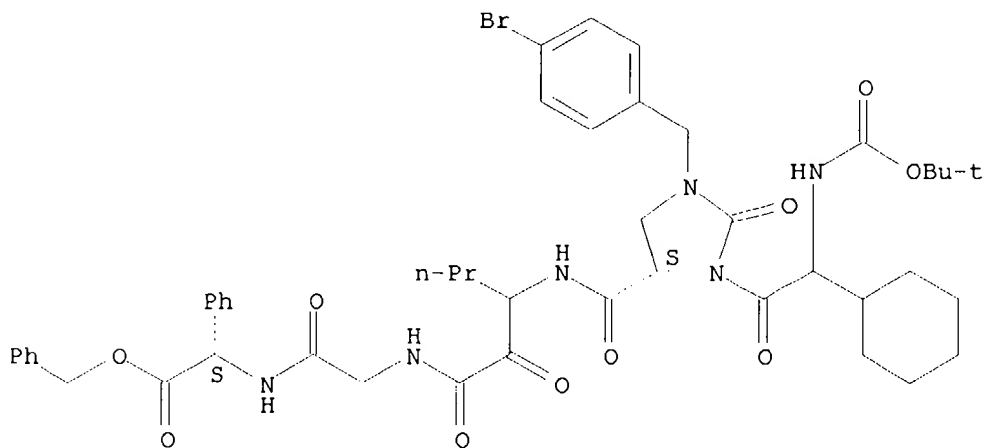
Absolute stereochemistry.



RN 393547-31-4 CAPLUS

CN Glycine, 2-cyclohexyl-N-[(1,1-dimethylethoxy)carbonyl]glycyl-(4S)-1-[(4-bromophenyl)methyl]-2-oxo-4-imidazolidinecarboxyl-3-amino-2-oxohexanoylglycyl-2-phenyl-, phenylmethyl ester, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

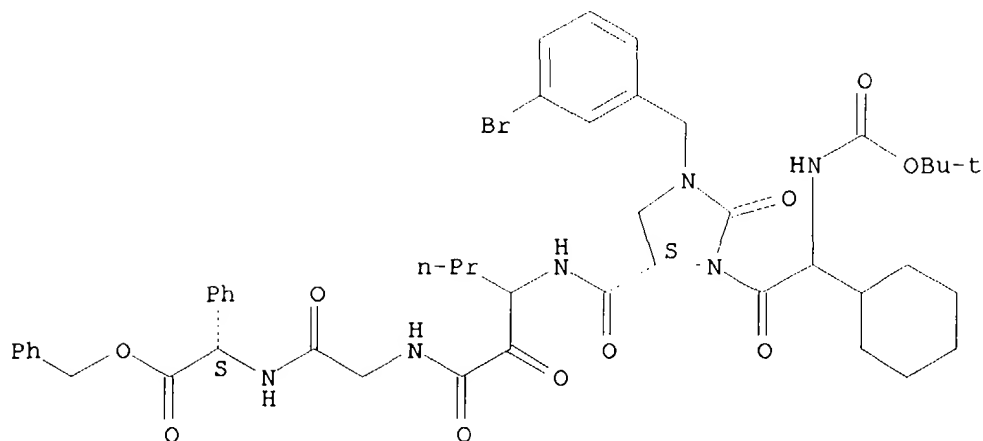


RN 393547-33-6 CAPLUS

CN Glycine, 2-cyclohexyl-N-[(1,1-dimethylethoxy)carbonyl]glycyl-(4S)-1-[(3-bromophenyl)methyl]-2-oxo-4-imidazolidinecarboxyl-3-amino-2-oxohexanoylglycyl-2-phenyl-, phenylmethyl ester, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

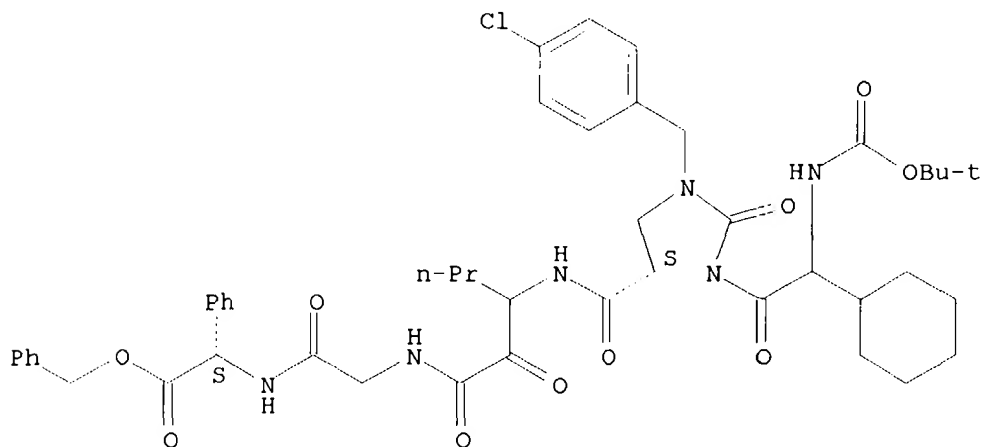
Lukton 10/909077



RN 393547-35-8 CAPLUS

CN Glycine, 2-cyclohexyl-N-[(1,1-dimethylethoxy)carbonyl]glycyl-(4S)-1-[(4-chlorophenyl)methyl]-2-oxo-4-imidazolidinecarbonyl-3-amino-2-oxohexanoylglycyl-2-phenyl-, phenylmethyl ester, (2S)- (9CI) (CA INDEX NAME)

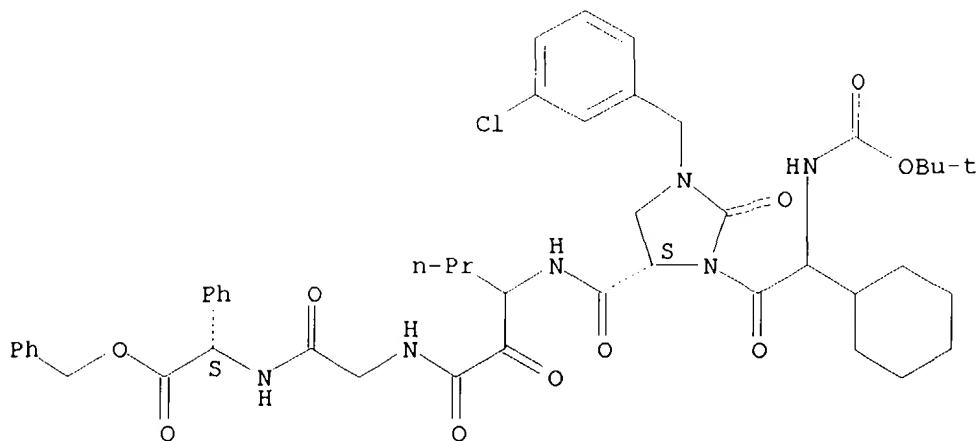
Absolute stereochemistry.



RN 393547-37-0 CAPLUS

CN Glycine, 2-cyclohexyl-N-[(1,1-dimethylethoxy)carbonyl]glycyl-(4S)-1-[(3-chlorophenyl)methyl]-2-oxo-4-imidazolidinecarbonyl-3-amino-2-oxohexanoylglycyl-2-phenyl-, phenylmethyl ester, (2S)- (9CI) (CA INDEX NAME)

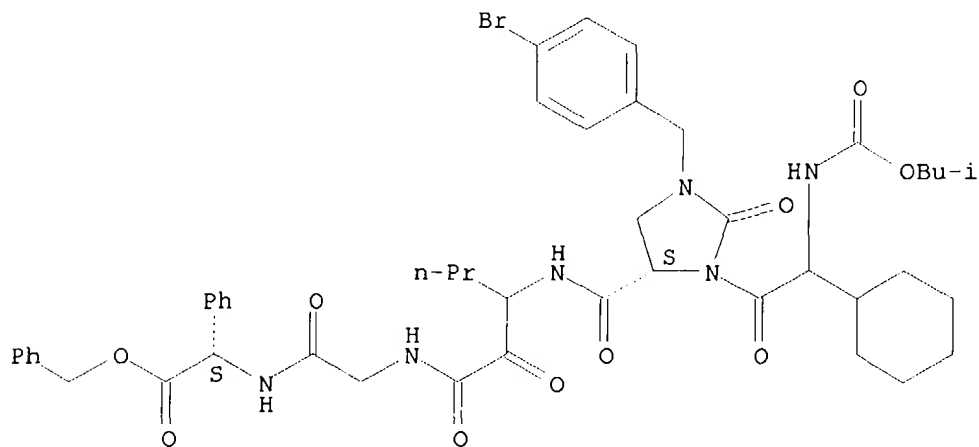
Absolute stereochemistry.



RN 393547-39-2 CAPLUS

CN Glycine, 2-cyclohexyl-N-[(2-methylpropoxy)carbonyl]glycyl-(4S)-1-[(4-bromophenyl)methyl]-2-oxo-4-imidazolidinecarbonyl-3-amino-2-oxohexanoylglycyl-2-phenyl-, phenylmethyl ester, (2S)- (9CI) (CA INDEX NAME)

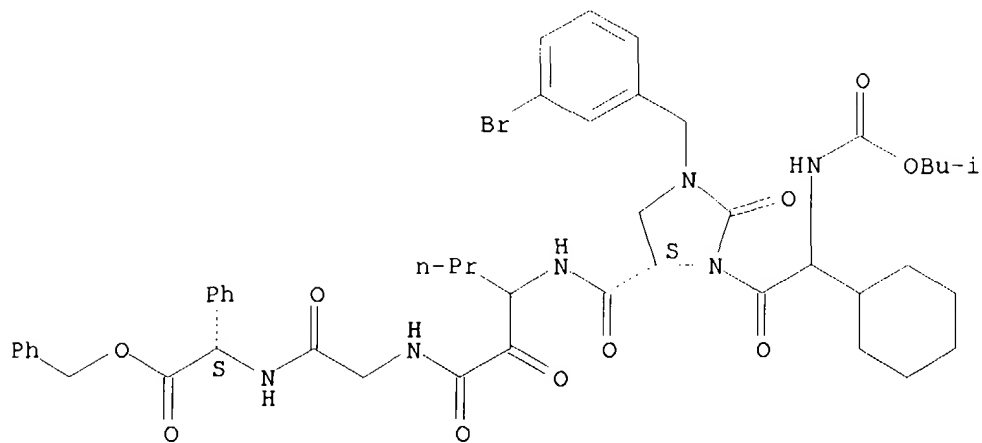
Absolute stereochemistry.



RN 393547-41-6 CAPLUS

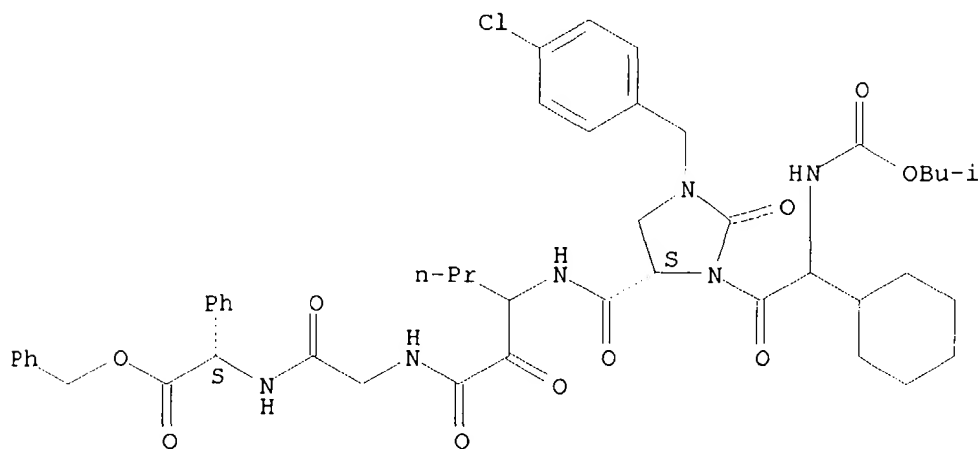
CN Glycine, 2-cyclohexyl-N-[(2-methylpropoxy)carbonyl]glycyl-(4S)-1-[(3-bromophenyl)methyl]-2-oxo-4-imidazolidinecarbonyl-3-amino-2-oxohexanoylglycyl-2-phenyl-, phenylmethyl ester, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



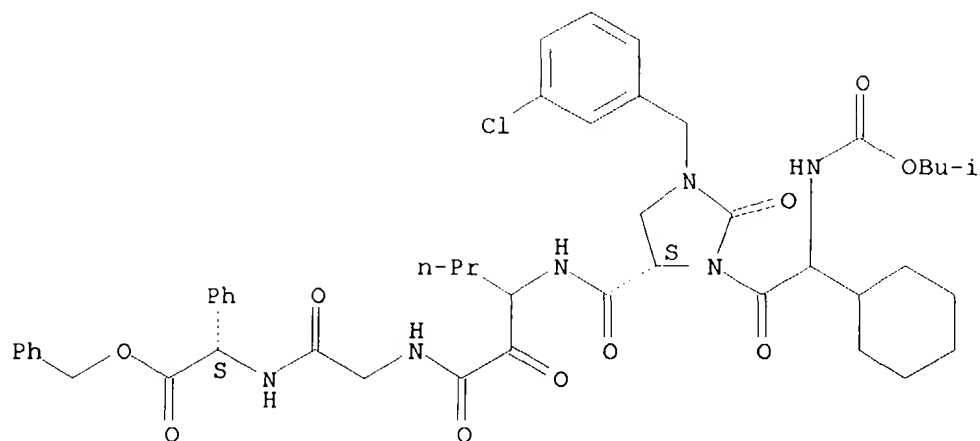
RN 393547-52-9 CAPLUS  
 CN Glycine, 2-cyclohexyl-N-[(2-methylpropoxy)carbonyl]glycyl-(4S)-1-[(4-chlorophenyl)methyl]-2-oxo-4-imidazolidinecarbonyl-3-amino-2-oxohexanoylglycyl-2-phenyl-, phenylmethyl ester, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 393547-54-1 CAPLUS  
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Absolute stereochemistry.



IT 393546-71-9P 393546-73-1P 393546-75-3P  
 393546-79-7P 393546-81-1P 393546-83-3P  
 393546-85-5P 393546-87-7P 393546-89-9P  
 393546-91-3P 393546-93-5P 393546-95-7P  
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 393547-89-2P 393547-91-6P 393547-93-8P  
 393547-95-0P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU  
 (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES  
 (Uses)

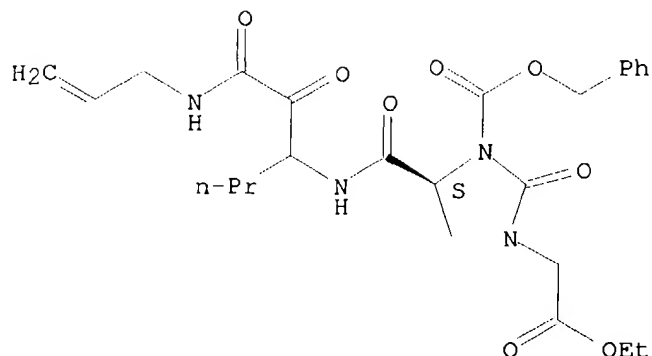
(preparation of novel imidazolidinones as NS3-serine protease inhibitors of  
 hepatitis C virus)

RN 393546-71-9 CAPLUS

CN 1-Imidazolidineacetic acid, 2-oxo-4-[[[1-[(2-phenylpropenyl)amino]acetyl]butyl]amino]carbonyl]-3-[(phenylmethoxy)carbonyl]-,  
 ethyl ester, (4S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

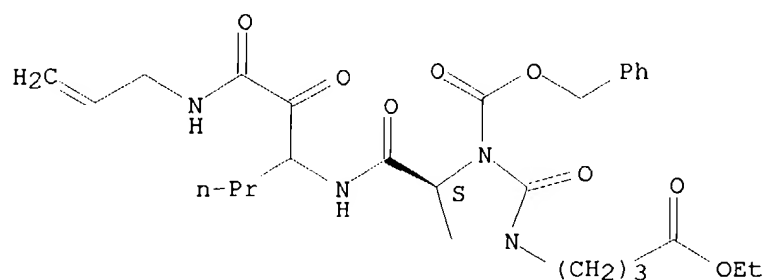
Lukton 10/909077



RN 393546-73-1 CAPLUS

CN 1-Imidazolidinebutanoic acid, 2-oxo-4-[[[1-[oxo(2-propenylamino)acetyl]butyl]amino]carbonyl]-3-[(phenylmethoxy)carbonyl]-, ethyl ester, (4S)- (9CI) (CA INDEX NAME)

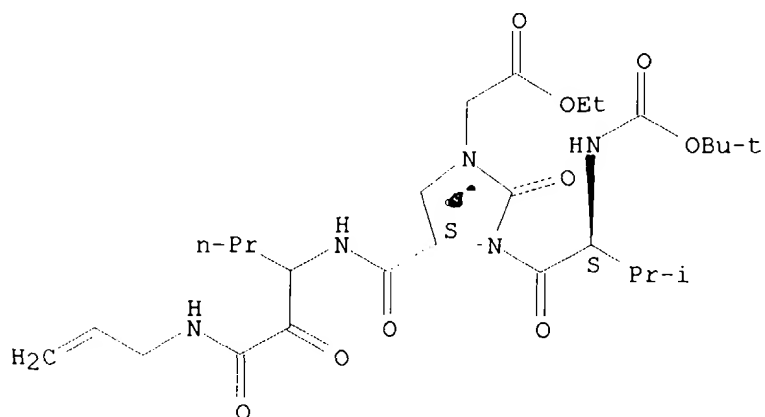
Absolute stereochemistry.



RN 393546-75-3 CAPLUS

CN 1-Imidazolidineacetic acid, 3-[(2S)-2-[[[1,1-dimethylethoxy]carbonyl]amino]-3-methyl-1-oxobutyl]-2-oxo-4-[[[1-[oxo(2-propenylamino)acetyl]butyl]amino]carbonyl]-, ethyl ester, (4S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



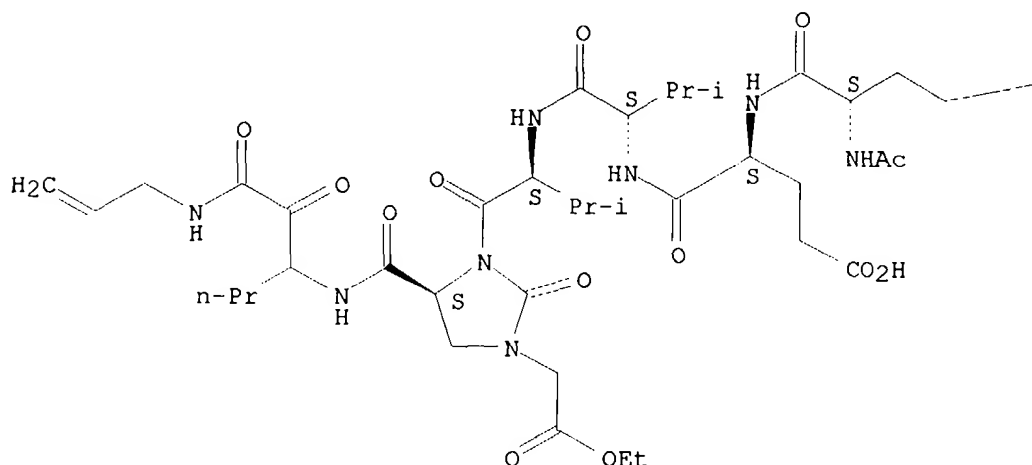


Lukton 10/909077

RN 393546-79-7 CAPLUS  
CN L-Valinamide, N-acetyl-L- $\alpha$ -glutamyl-L- $\alpha$ -glutamyl-N-[(1S)-1-  
[[ (5S)-3-(2-ethoxy-2-oxoethyl)-2-oxo-5-[[[1-[oxo(2-  
propenylamino)acetyl]butyl]amino]carbonyl]-1-imidazolidinyl]carbonyl]-2-  
methylpropyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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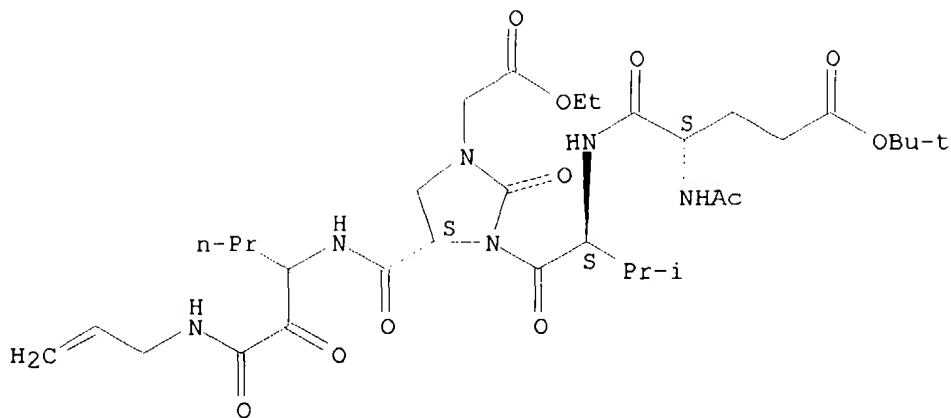


PAGE 1-B

CO<sub>2</sub>H

RN 393546-81-1 CAPLUS  
CN 1-Imidazolidineacetic acid, 3-(N-acetyl-L- $\alpha$ -glutamyl-L-valyl)-2-oxo-  
4-[[[1-[oxo(2-propenylamino)acetyl]butyl]amino]carbonyl]-,  
1'-(1,1-dimethylethyl)  $\alpha$ -ethyl ester, (4S)- (9CI) (CA INDEX NAME)

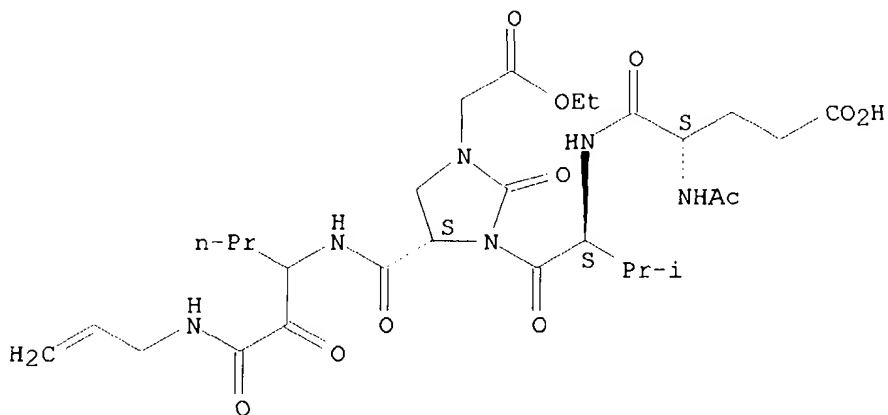
Absolute stereochemistry.



RN 393546-83-3 CAPLUS

CN 1-Imidazolidineacetic acid, 3-(N-acetyl-L-α-glutamyl-L-valyl)-2-oxo-4-[[[1-[oxo(2-propenylamino)acetyl]butyl]amino]carbonyl]-, α-ethyl ester, (4S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

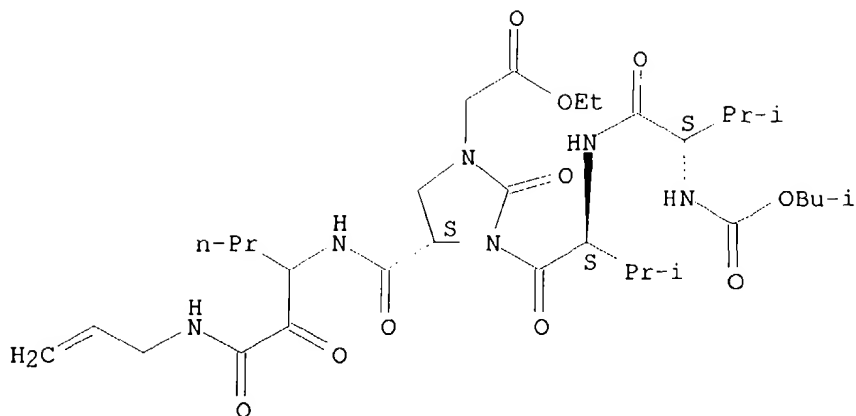


RN 393546-85-5 CAPLUS

CN 1-Imidazolidineacetic acid, 3-[N-[(2-methylpropoxy)carbonyl]-L-valyl-L-valyl]-2-oxo-4-[[[1-[oxo(2-propenylamino)acetyl]butyl]amino]carbonyl]-, ethyl ester, (4S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

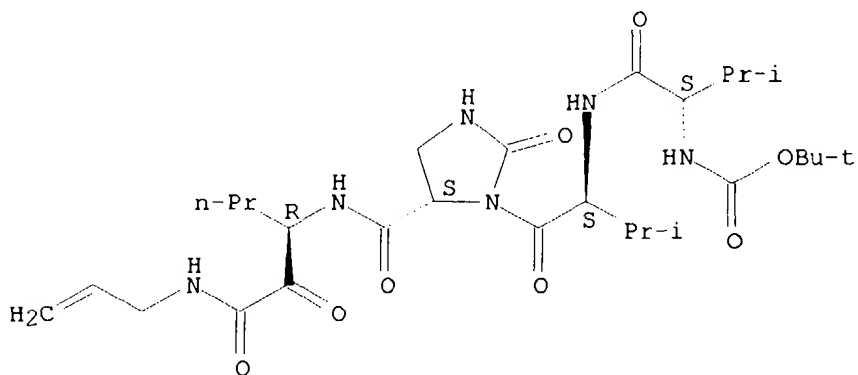
Lukton 10/909077



RN 393546-87-7 CAPLUS

CN 4-Imidazolidinecarboxamide, N-[(1,1-dimethylethoxy)carbonyl]-L-valyl-L-valyl-2-oxo-N-[(1R)-1-[oxo(2-propenylamino)acetyl]butyl]-, (4S)- (9CI)  
(CA INDEX NAME)

Absolute stereochemistry.

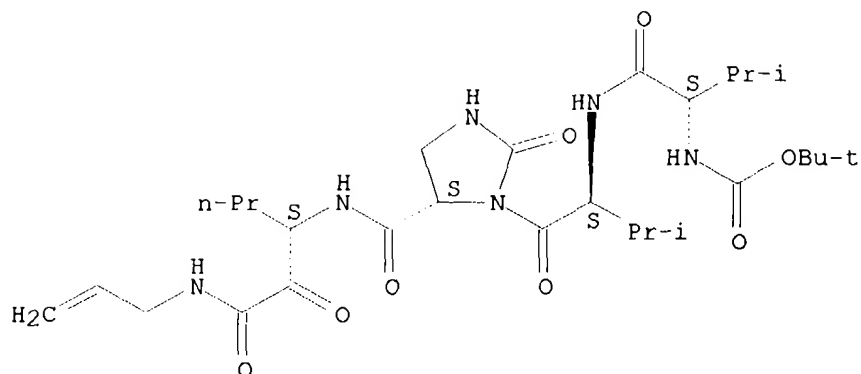


RN 393546-89-9 CAPLUS

CN 4-Imidazolidinecarboxamide, N-[(1,1-dimethylethoxy)carbonyl]-L-valyl-L-valyl-2-oxo-N-[(1S)-1-[oxo(2-propenylamino)acetyl]butyl]-, (4S)- (9CI)  
(CA INDEX NAME)

Absolute stereochemistry.

Lukton 10/909077

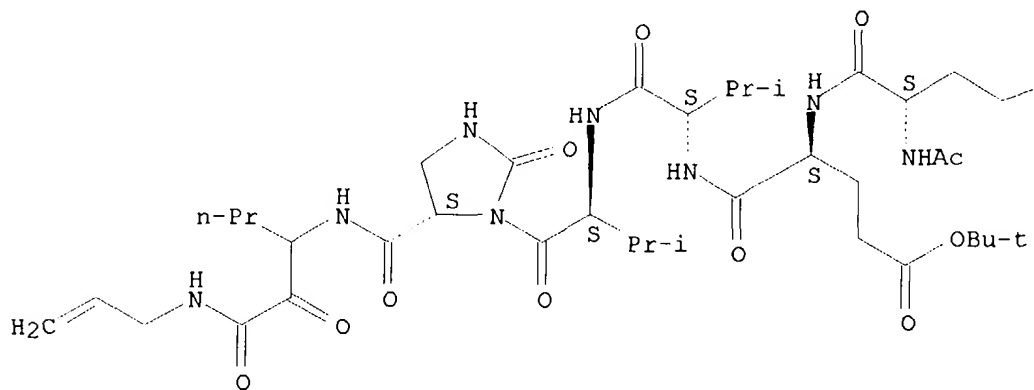


RN 393546-91-3 CAPLUS

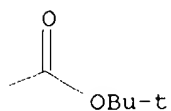
CN 4-Imidazolidinecarboxamide, N-acetyl-L-α-glutamyl-L-α-glutamyl-L-valyl-L-valyl-2-oxo-N-[1-[oxo(2-propenylamino)acetyl]butyl]-, bis(1,1-dimethylethyl) ester, (4S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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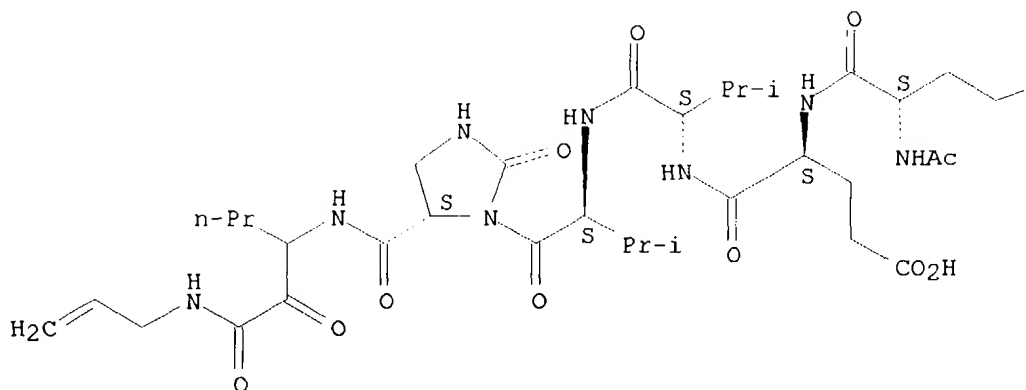


RN 393546-93-5 CAPLUS

CN 4-Imidazolidinecarboxamide, N-acetyl-L-α-glutamyl-L-α-glutamyl-L-valyl-L-valyl-2-oxo-N-[1-[oxo(2-propenylamino)acetyl]butyl]-, (4S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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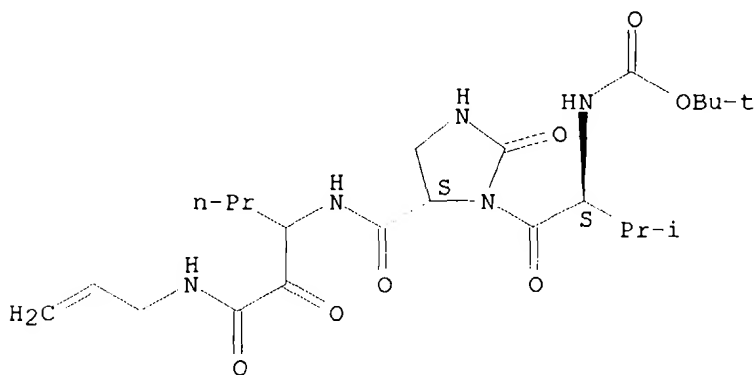
PAGE 1-B

CO<sub>2</sub>H

RN 393546-95-7 CAPLUS

CN Carbamic acid, [(1S)-2-methyl-1-[(5S)-2-oxo-5-[[[1-[oxo(2-propenylamino)acetyl]butyl]amino]carbonyl]-1-imidazolidinyl]carbonyl]propyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

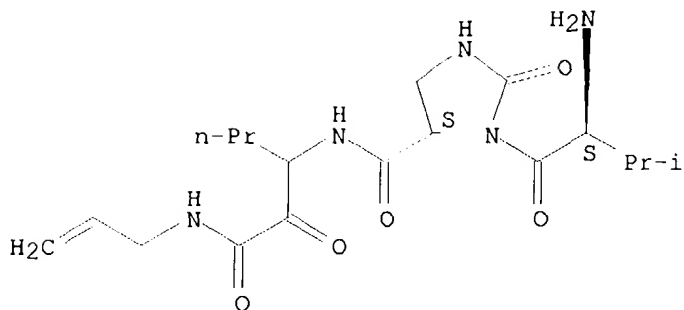
Absolute stereochemistry.



RN 393546-97-9 CAPLUS

CN 4-Imidazolidinecarboxamide, [(2S)-2-amino-3-methyl-1-oxobutyl]-2-oxo-N-[1-[oxo(2-propenylamino)acetyl]butyl]-, (4S)- (9CI) (CA INDEX NAME)

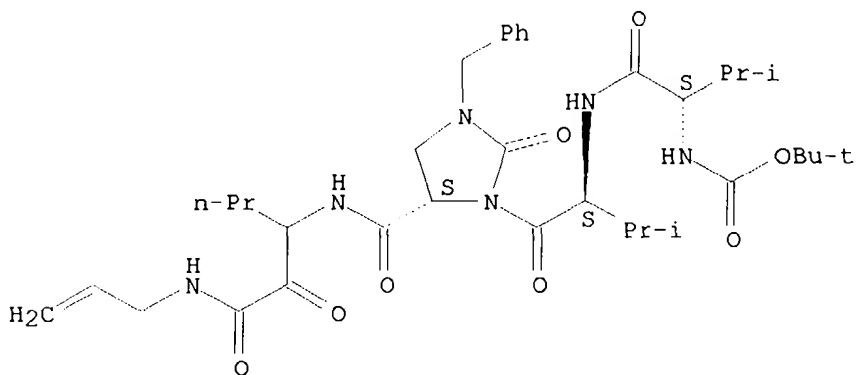
Absolute stereochemistry.



RN 393546-99-1 CAPLUS

CN 4-Imidazolidinecarboxamide, N-[(1,1-dimethylethoxy)carbonyl]-L-valyl-L-valyl-2-oxo-N-[1-[oxo(2-propenylamino)acetyl]butyl]-1-(phenylmethyl)-, (4S)-(9CI) (CA INDEX NAME)

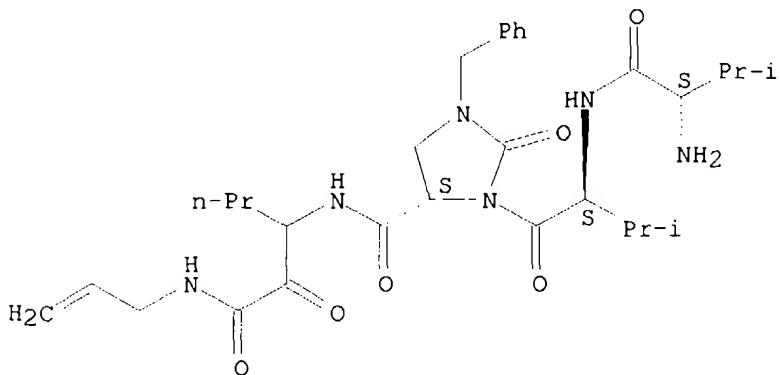
Absolute stereochemistry.



RN 393547-01-8 CAPLUS

CN 4-Imidazolidinecarboxamide, L-valyl-L-valyl-2-oxo-N-[1-[oxo(2-propenylamino)acetyl]butyl]-1-(phenylmethyl)-, (4S)-(9CI) (CA INDEX NAME)

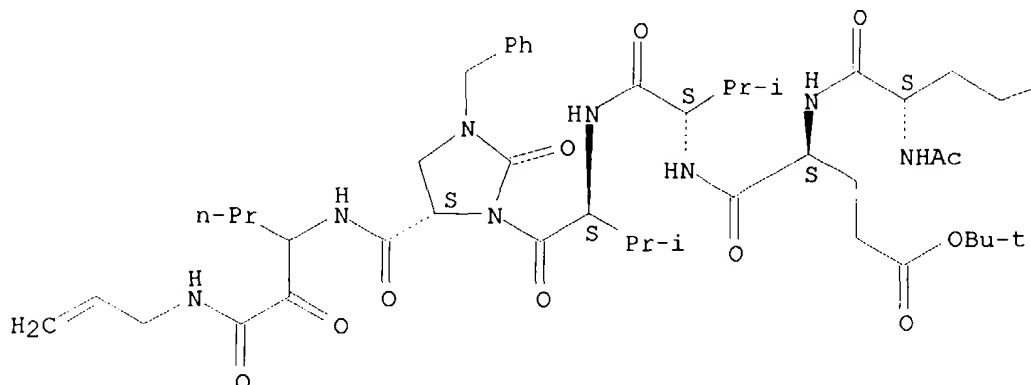
Absolute stereochemistry.



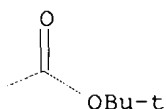
RN 393547-03-0 CAPLUS  
 CN 4-Imidazolidinecarboxamide, N-acetyl-L- $\alpha$ -glutamyl-L- $\alpha$ -glutamyl-L-valyl-L-valyl-2-oxo-N-[1-[oxo(2-propenylamino)acetyl]butyl]-1-(phenylmethyl)-, bis(1,1-dimethylethyl) ester, (4S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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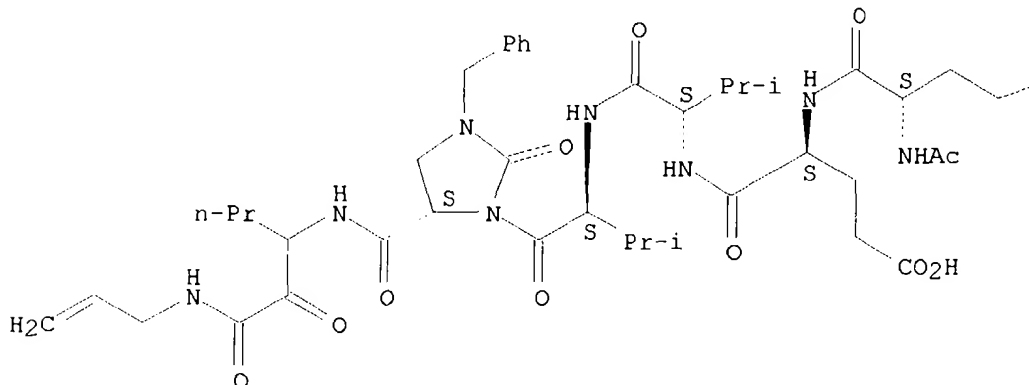
PAGE 1-B



RN 393547-05-2 CAPLUS  
 CN 4-Imidazolidinecarboxamide, N-acetyl-L- $\alpha$ -glutamyl-L- $\alpha$ -glutamyl-L-valyl-L-valyl-2-oxo-N-[1-[oxo(2-propenylamino)acetyl]butyl]-1-(phenylmethyl)-, (4S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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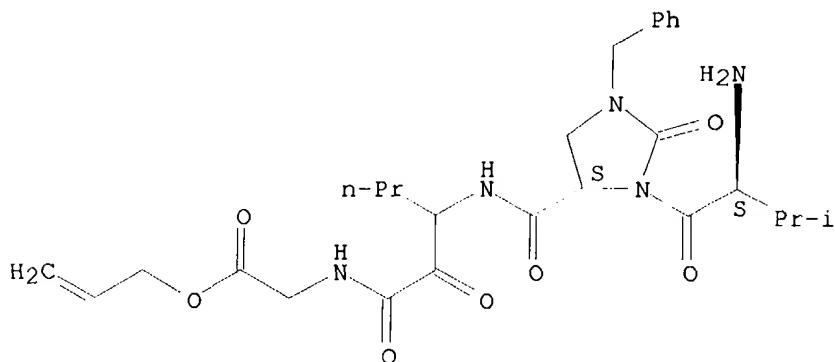


CO<sub>2</sub>H

RN 393547-09-6 CAPLUS

CN Glycine, L-valyl-(4S)-2-oxo-1-(phenylmethyl)-4-imidazolidinecarbonyl-3-amino-2-oxohexanoyl-, 2-propenyl ester (9CI) (CA INDEX NAME)

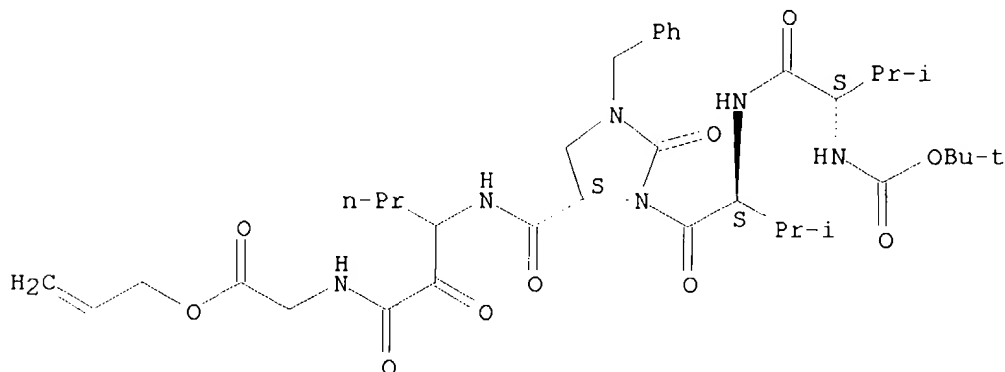
Absolute stereochemistry.



RN 393547-11-0 CAPLUS

CN Glycine, N-[(1,1-dimethylethoxy) carbonyl]-L-valyl-L-valyl-(4S)-2-oxo-1-(phenylmethyl)-4-imidazolidinecarbonyl-3-amino-2-oxohexanoyl-, 2-propenyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

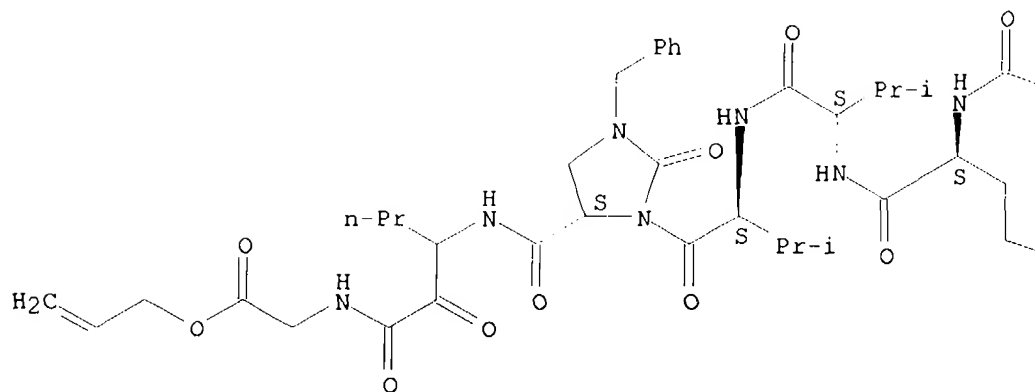


RN 393547-13-2 CAPLUS

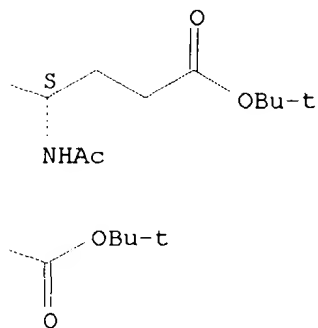
CN Glycine, N-acetyl-L-α-glutamyl-L-α-glutamyl-L-valyl-L-valyl-(4S)-2-oxo-1-(phenylmethyl)-4-imidazolidinecarbonyl-3-amino-2-oxohexanoyl-, 1,2-bis(1,1-dimethylethyl) 7-(2-propenyl) ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.





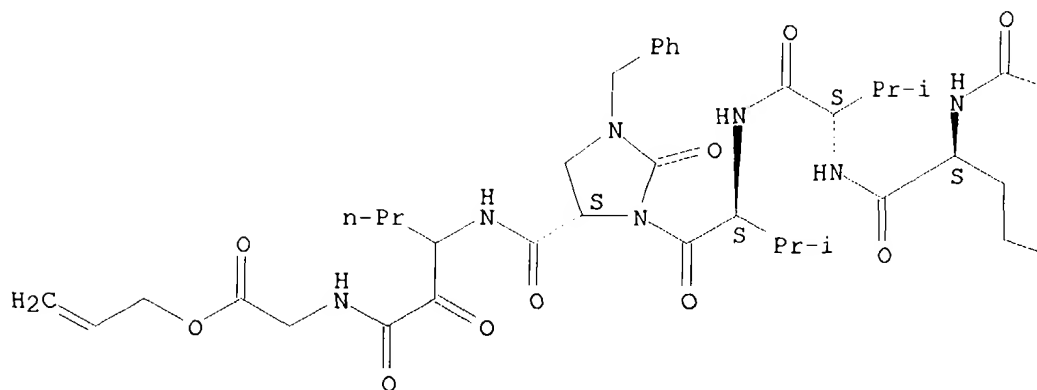
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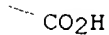
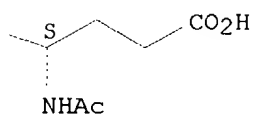
RN	393547-15-4	CAPLUS
CN	Glycine, N-acetyl-L- $\alpha$ -glutamyl-L- $\alpha$ -glutamyl-L-valyl-L-valyl- (4S)-2-oxo-1-(phenylmethyl)-4-imidazolidinecarbonyl-3-amino-2-oxohexanoyl- , 7-(2-propenyl) ester (9CI) (CA INDEX NAME)	

Absolute stereochemistry.

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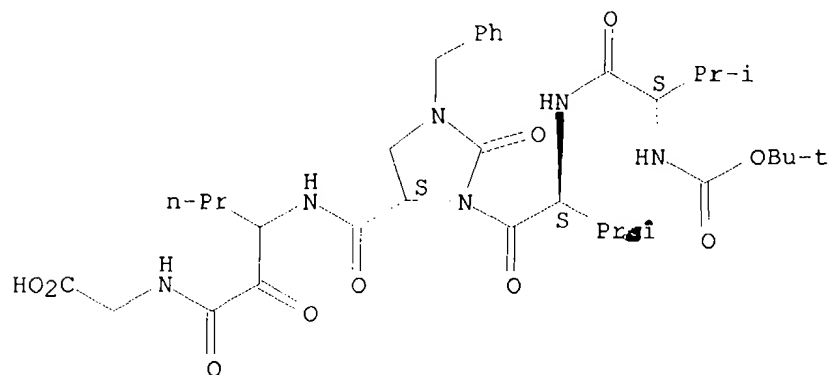
PAGE 1-B



RN 393547-17-6 CAPLUS

CN Glycine, N-[(1,1-dimethylethoxy) carbonyl]-L-valyl-L-valyl-(4S)-2-oxo-1-(phenylmethyl)-4-imidazolidinecarboxyl-3-amino-2-oxohexanoyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 393547-19-8 CAPLUS

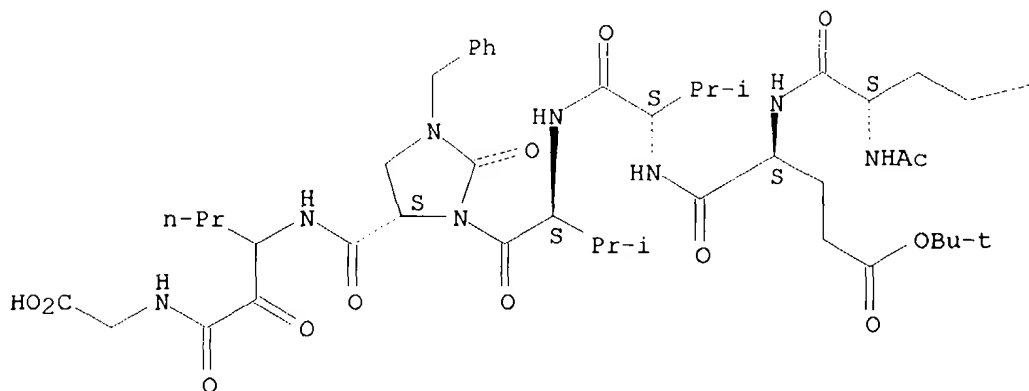
CN Glycine, N-acetyl-L-α-glutamyl-L-α-glutamyl-L-valyl-L-valyl-

Lukton 10/909077

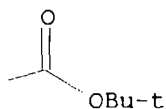
(4S)-2-oxo-1-(phenylmethyl)-4-imidazolidinecarbonyl-3-amino-2-oxohexanoyl-, 1,2-bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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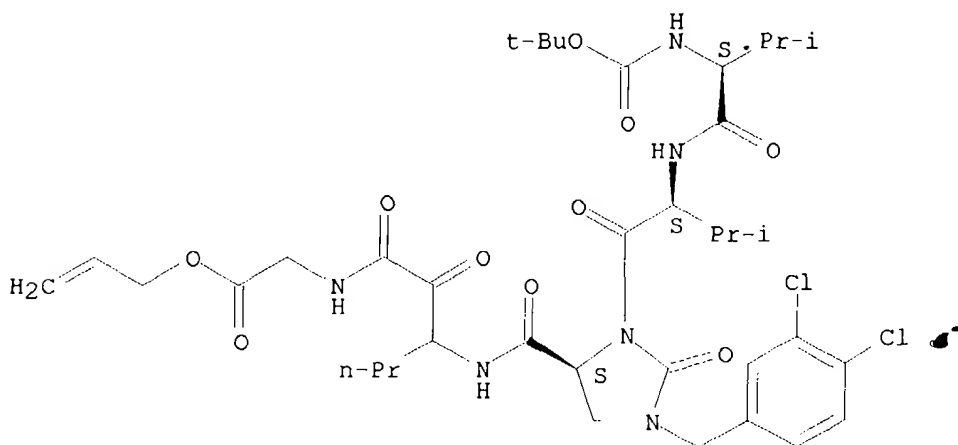
PAGE 1-B



RN 393547-21-2 CAPLUS

CN Glycine, N-[(1,1-dimethylethoxy) carbonyl]-L-valyl-L-valyl-(4S)-1-[(3,4-dichlorophenyl)methyl]-2-oxo-4-imidazolidinecarbonyl-3-amino-2-oxohexanoyl-, 2-propenyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

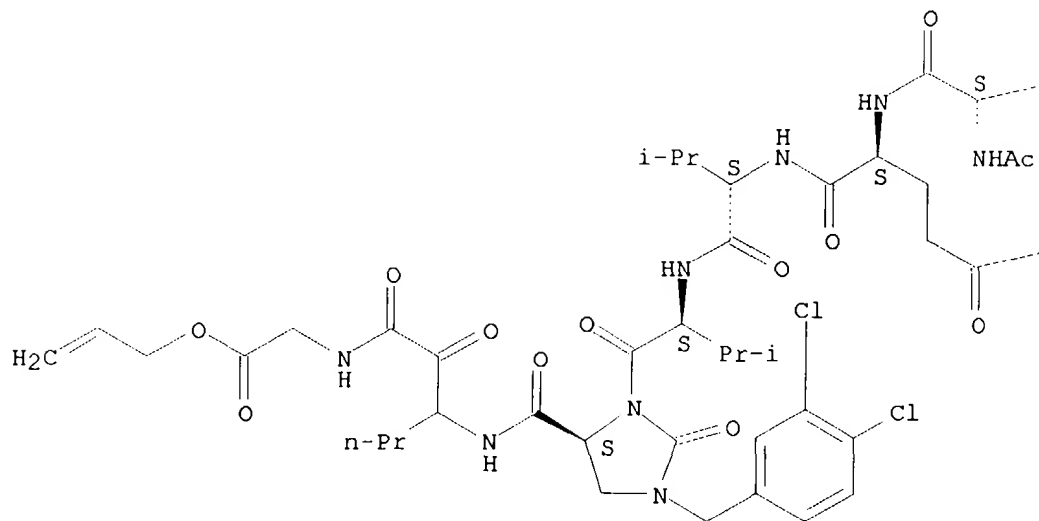


RN 393547-23-4 CAPLUS

CN Glycine, N-acetyl-L-α-glutamyl-L-α-glutamyl-L-valyl-L-valyl-(4S)-1-[(3,4-dichlorophenyl)methyl]-2-oxo-4-imidazolidinecarbonyl-3-amino-

2-oxohexanoyl-, 1,2-bis(1,1-dimethylethyl) 7-(2-propenyl) ester (9CI) (CA  
INDEX NAME)

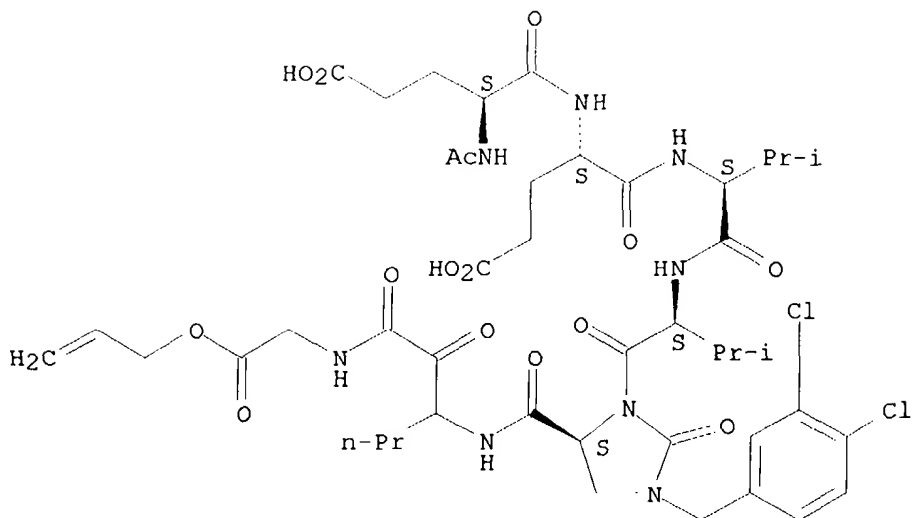
PAGE 1-A

CCCC(=O)OCC(C)(C)C

--- OBU-t

RN	393547-25-6	CAPLUS
CN	Glycine, N-acetyl-L- $\alpha$ -glutamyl-L- $\alpha$ -glutamyl-L-valyl-L-valyl- (4S)-1-[(3,4-dichlorophenyl)methyl]-2-oxo-4-imidazolidinecarbonyl-3-amino- 2-oxohexanoyl-, 7-(2-propenyl) ester (9CI) (CA INDEX NAME)	

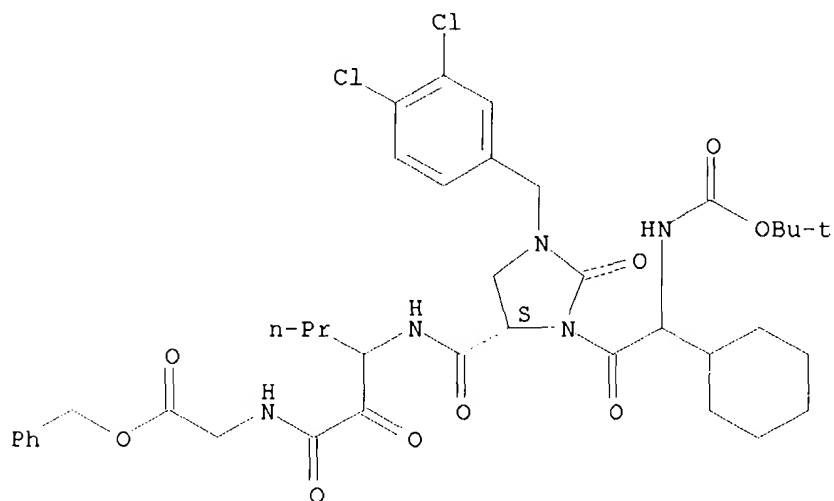
Absolute stereochemistry.



RN 393547-27-8 CAPLUS

CN Glycine, 2-cyclohexyl-N-[(1,1-dimethylethoxy)carbonyl]glycyl-(4S)-1-[(3,4-dichlorophenyl)methyl]-2-oxo-4-imidazolidinecarbonyl-3-amino-2-oxohexanoyl-, phenylmethyl ester (9CI) (CA INDEX NAME)

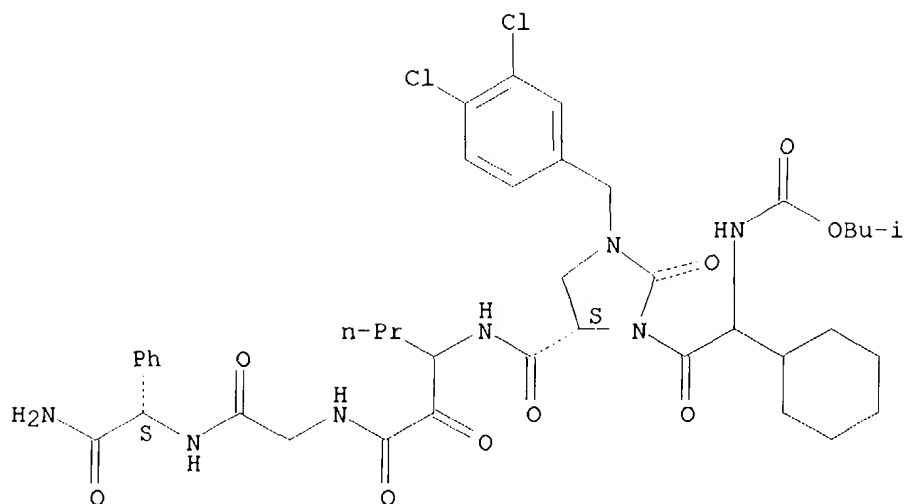
Absolute stereochemistry.



RN 393547-38-1 CAPLUS

CN Glycidamide, 2-cyclohexyl-N-[(2-methylpropoxy)carbonyl]glycyl-(4S)-1-[(3,4-dichlorophenyl)methyl]-2-oxo-4-imidazolidinecarbonyl-3-amino-2-oxohexanoylglycyl-2-phenyl-, (2S)- (9CI) (CA INDEX NAME)

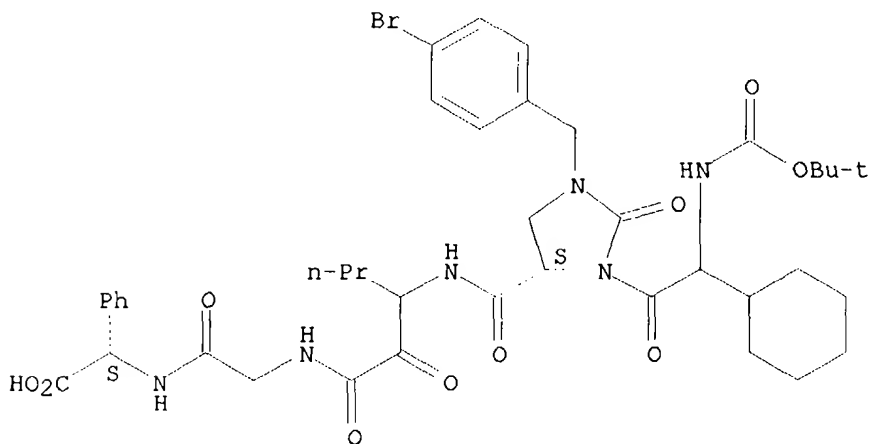
Absolute stereochemistry.



RN 393547-56-3 CAPLUS

CN Glycine, 2-cyclohexyl-N-[(1,1-dimethylethoxy)carbonyl]glycyl-(4S)-1-[(4-bromophenyl)methyl]-2-oxo-4-imidazolidinecarboxyl-3-amino-2-oxohexanoylglycyl-2-phenyl-, (2S)- (9CI) (CA INDEX NAME)

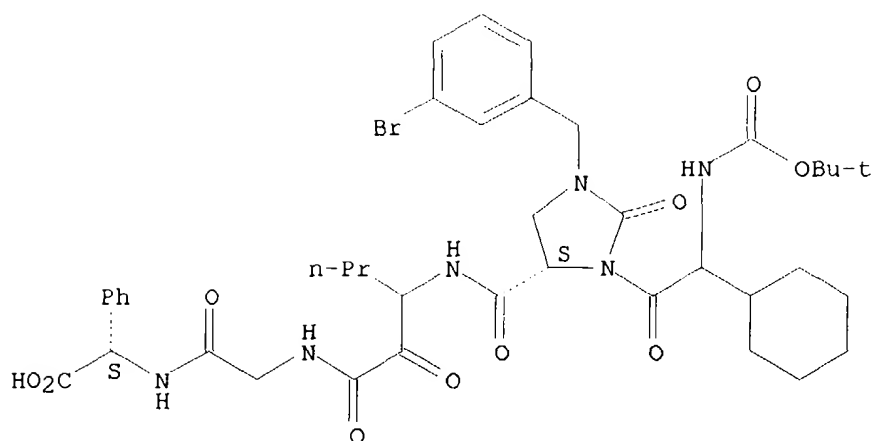
Absolute stereochemistry.



RN 393547-59-6 CAPLUS

CN Glycine, 2-cyclohexyl-N-[(1,1-dimethylethoxy)carbonyl]glycyl-(4S)-1-[(3-bromophenyl)methyl]-2-oxo-4-imidazolidinecarboxyl-3-amino-2-oxohexanoylglycyl-2-phenyl-, (2S)- (9CI) (CA INDEX NAME)

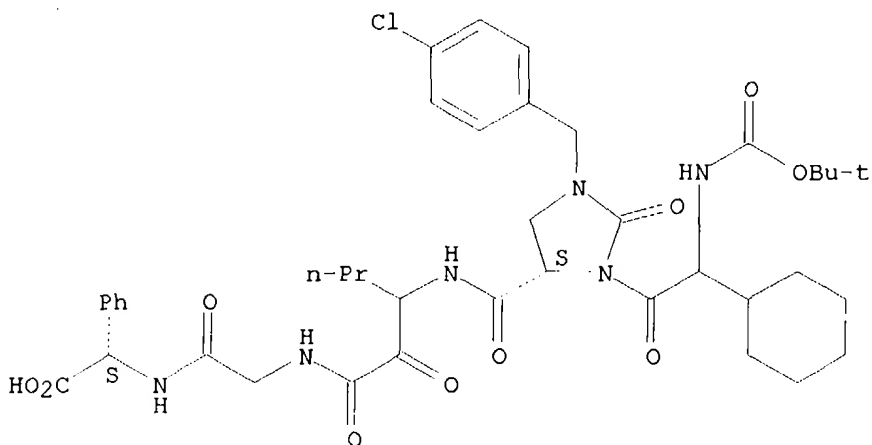
Absolute stereochemistry.



RN 393547-61-0 CAPLUS

CN Glycine, 2-cyclohexyl-N-[(1,1-dimethylethoxy)carbonyl]glycyl-(4S)-1-[(4-chlorophenyl)methyl]-2-oxo-4-imidazolidinecarbonyl-3-amino-2-oxohexanoylglycyl-2-phenyl-, (2S)- (9CI) (CA INDEX NAME)

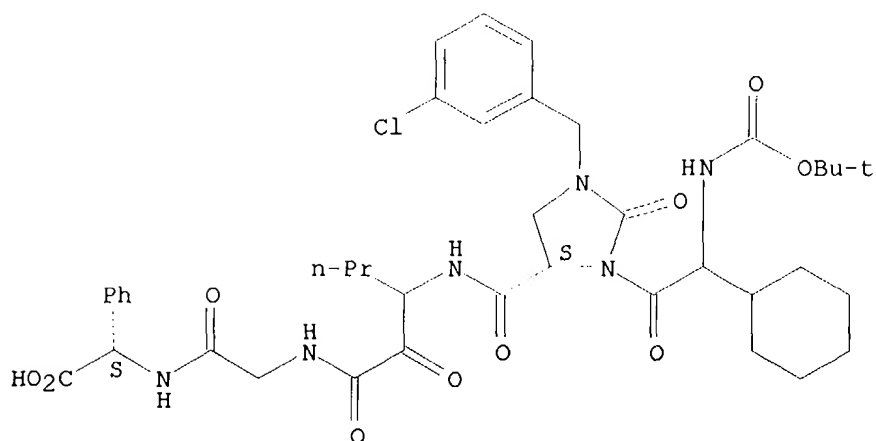
Absolute stereochemistry.



RN 393547-64-3 CAPLUS

CN Glycine, 2-cyclohexyl-N-[(1,1-dimethylethoxy)carbonyl]glycyl-(4S)-1-[(3-chlorophenyl)methyl]-2-oxo-4-imidazolidinecarbonyl-3-amino-2-oxohexanoylglycyl-2-phenyl-, (2S)- (9CI) (CA INDEX NAME)

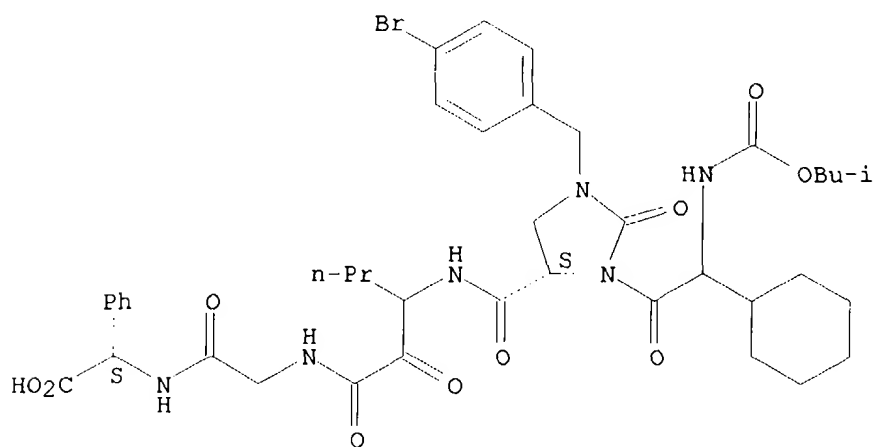
Absolute stereochemistry.



RN 393547-66-5 CAPLUS

CN Glycine, 2-cyclohexyl-N-[(2-methylpropoxy)carbonyl]glycyl-(4S)-1-[(4-bromophenyl)methyl]-2-oxo-4-imidazolidinecarbonyl-3-amino-2-oxohexanoylglycyl-2-phenyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

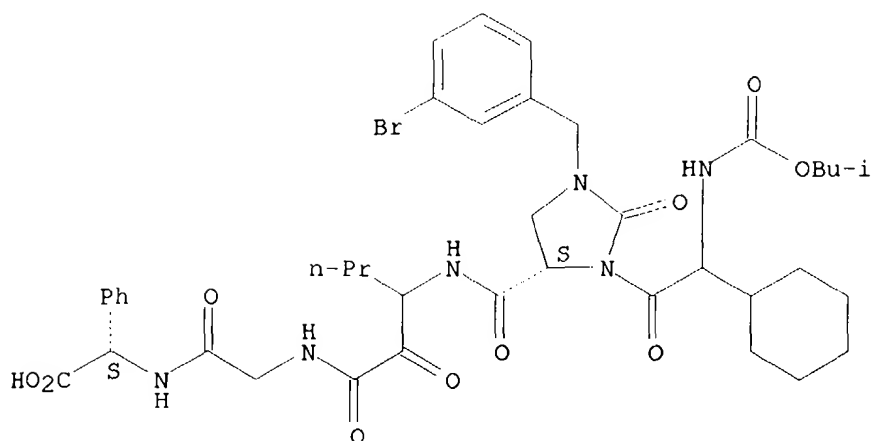


RN 393547-68-7 CAPLUS

CN Glycine, 2-cyclohexyl-N-[(2-methylpropoxy)carbonyl]glycyl-(4S)-1-[(3-bromophenyl)methyl]-2-oxo-4-imidazolidinecarbonyl-3-amino-2-oxohexanoylglycyl-2-phenyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

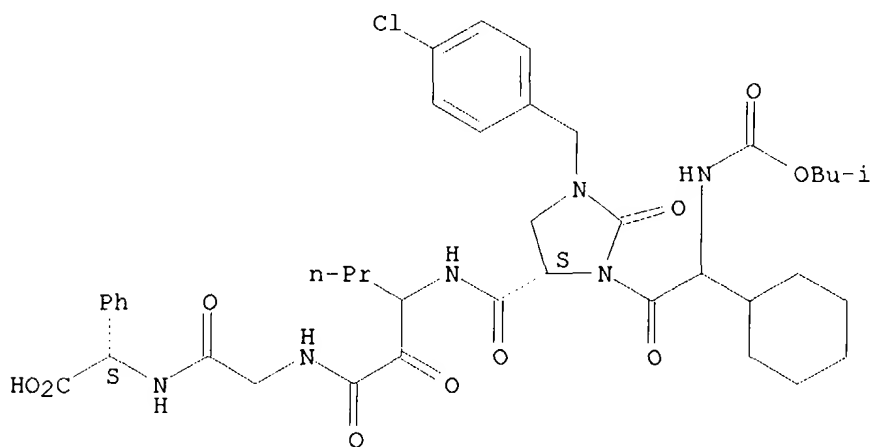




RN 393547-71-2 CAPLUS

CN Glycine, 2-cyclohexyl-N-[(2-methylpropoxy)carbonyl]glycyl-(4S)-1-[(4-chlorophenyl)methyl]-2-oxo-4-imidazolidinecarbonyl-3-amino-2-oxohexanoylglycyl-2-phenyl-, (2S)- (9CI) (CA INDEX NAME)

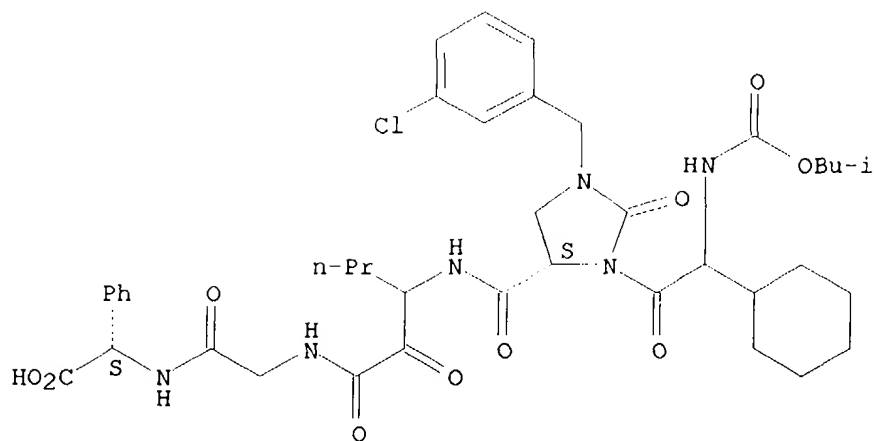
Absolute stereochemistry.



RN 393547-73-4 CAPLUS

CN Glycine, 2-cyclohexyl-N-[(2-methylpropoxy)carbonyl]glycyl-(4S)-1-[(3-chlorophenyl)methyl]-2-oxo-4-imidazolidinecarbonyl-3-amino-2-oxohexanoylglycyl-2-phenyl-, (2S)- (9CI) (CA INDEX NAME)

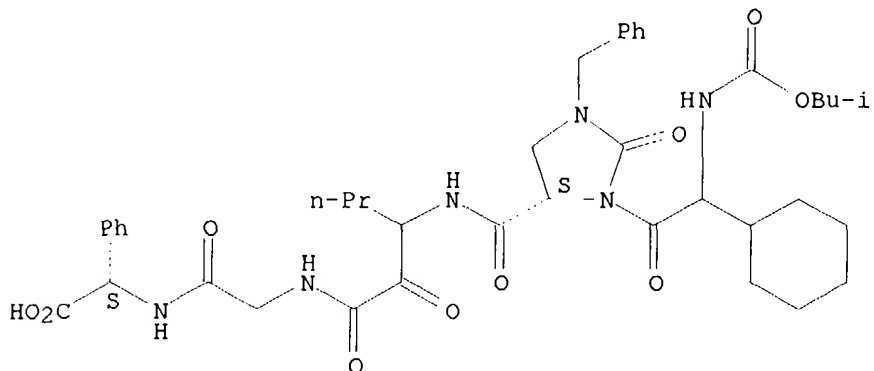
Absolute stereochemistry.



RN 393547-75-6 CAPLUS

CN Glycine, 2-cyclohexyl-N-[(2-methylpropoxy)carbonyl]glycyl-(4S)-2-oxo-1-(phenylmethyl)-4-imidazolidinecarboxyl-3-amino-2-oxohexanoylglycyl-2-phenyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

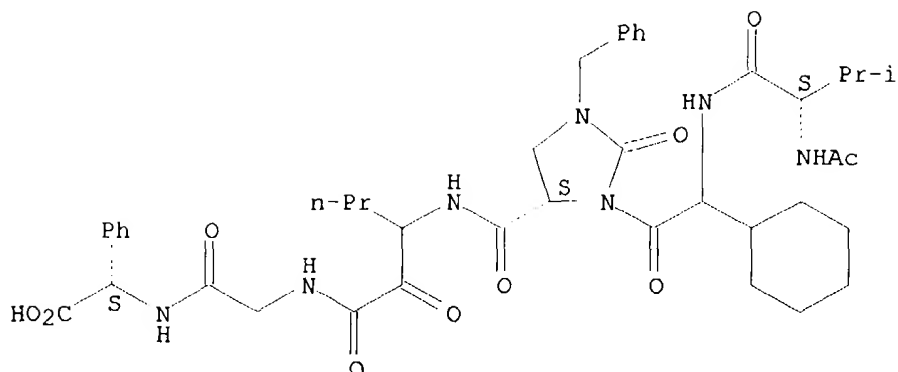


RN 393547-77-8 CAPLUS

CN Glycine, N-acetyl-L-valyl-2-cyclohexylglycyl-(4S)-2-oxo-1-(phenylmethyl)-4-imidazolidinecarboxyl-3-amino-2-oxohexanoylglycyl-2-phenyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

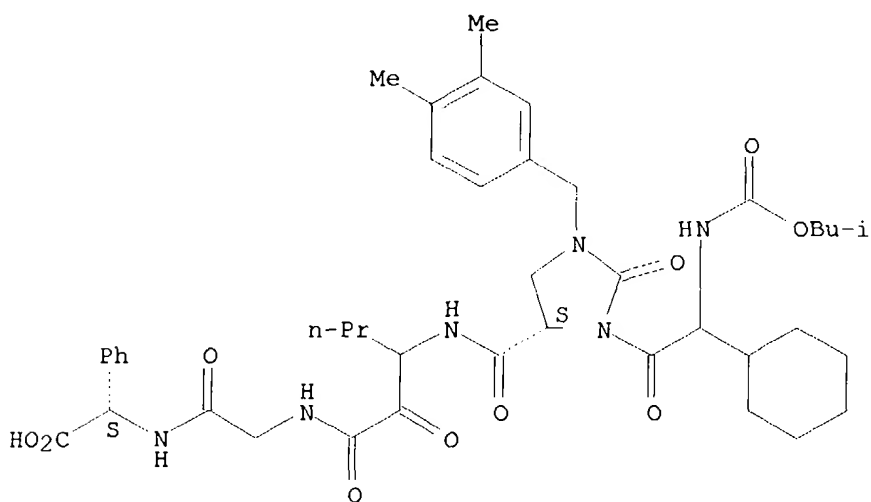
Lukton 10/909077



RN 393547-79-0 CAPLUS

CN Glycine, 2-cyclohexyl-N-[(2-methylpropoxy)carbonyl]glycyl-(4S)-1-[(3,4-dimethylphenyl)methyl]-2-oxo-4-imidazolidinecarbonyl-3-amino-2-oxohexanoylglycyl-2-phenyl-, (2S)- (9CI) (CA INDEX NAME)

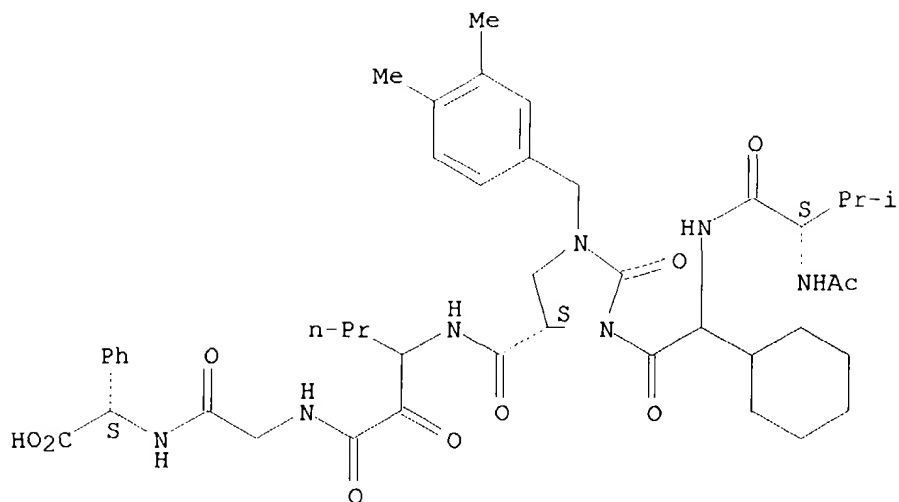
Absolute stereochemistry.



RN 393547-81-4 CAPLUS

CN Glycine, N-acetyl-L-valyl-2-cyclohexylglycyl-(4S)-1-[(3,4-dimethylphenyl)methyl]-2-oxo-4-imidazolidinecarbonyl-3-amino-2-oxohexanoylglycyl-2-phenyl-, (2S)- (9CI) (CA INDEX NAME)

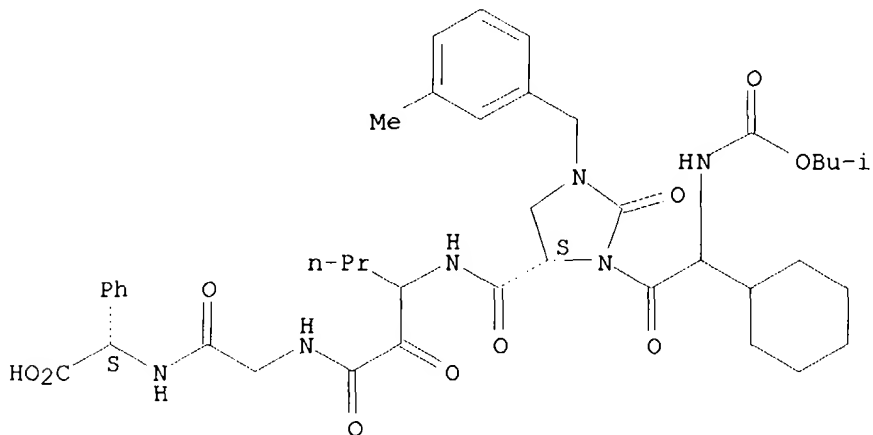
Absolute stereochemistry.



RN 393547-84-7 CAPLUS

CN Glycine, 2-cyclohexyl-N-[(2-methylpropoxy)carbonyl]glycyl-(4S)-1-[(3-methylphenyl)methyl]-2-oxo-4-imidazolidinecarboxyl-3-amino-2-oxohexanoylglycyl-2-phenyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

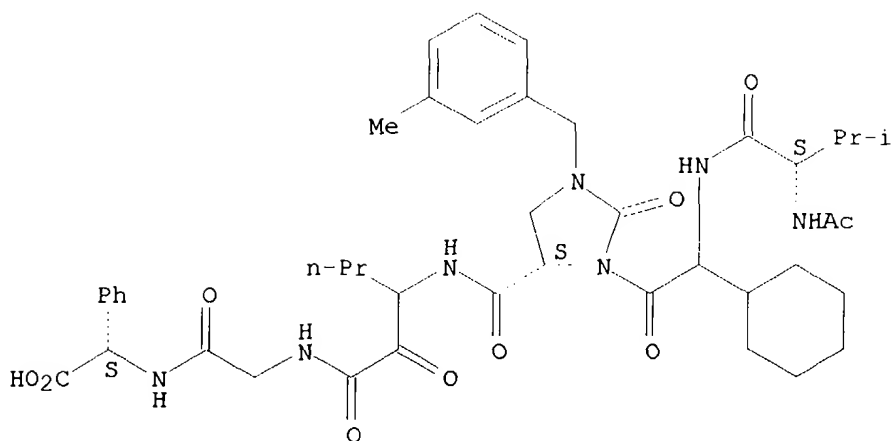


RN 393547-87-0 CAPLUS

CN Glycine, N-acetyl-L-valyl-2-cyclohexylglycyl-(4S)-1-[(3-methylphenyl)methyl]-2-oxo-4-imidazolidinecarboxyl-3-amino-2-oxohexanoylglycyl-2-phenyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

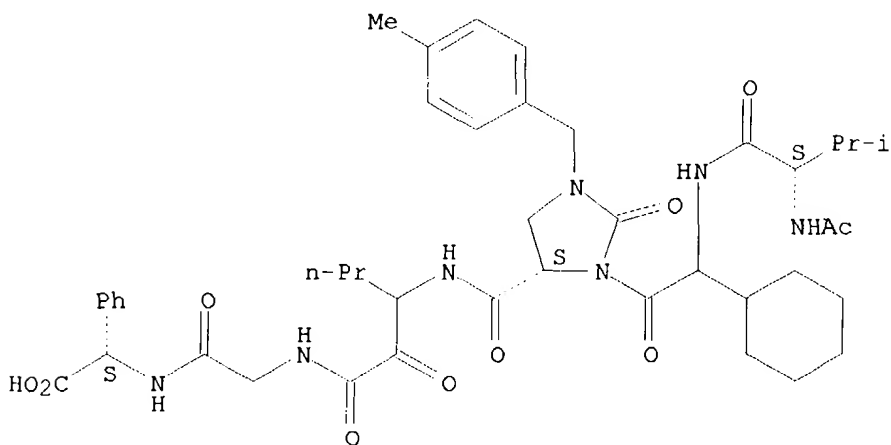
Lukton 10/909077



RN 393547-89-2 CAPLUS

CN Glycine, N-acetyl-L-valyl-2-cyclohexylglycyl-(4S)-1-[(4-methylphenyl)methyl]-2-oxo-4-imidazolidinecarbonyl-3-amino-2-oxohexanoylglycyl-2-phenyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

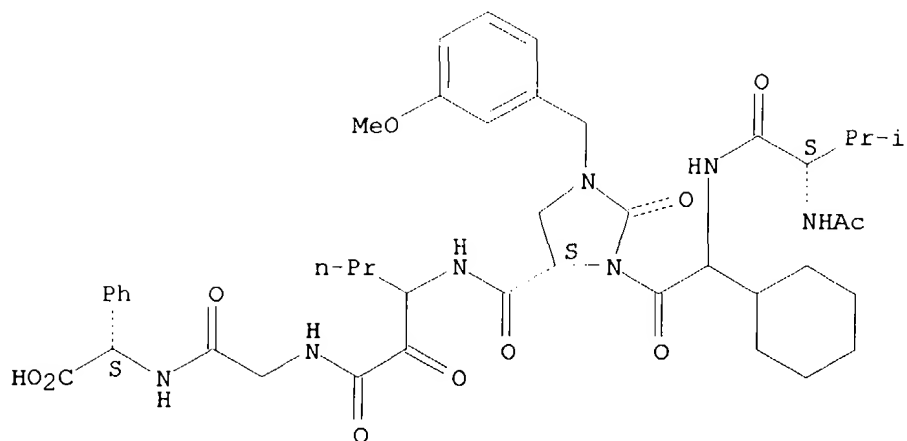


RN 393547-91-6 CAPLUS

CN Glycine, N-acetyl-L-valyl-2-cyclohexylglycyl-(4S)-1-[(3-methoxyphenyl)methyl]-2-oxo-4-imidazolidinecarbonyl-3-amino-2-oxohexanoylglycyl-2-phenyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

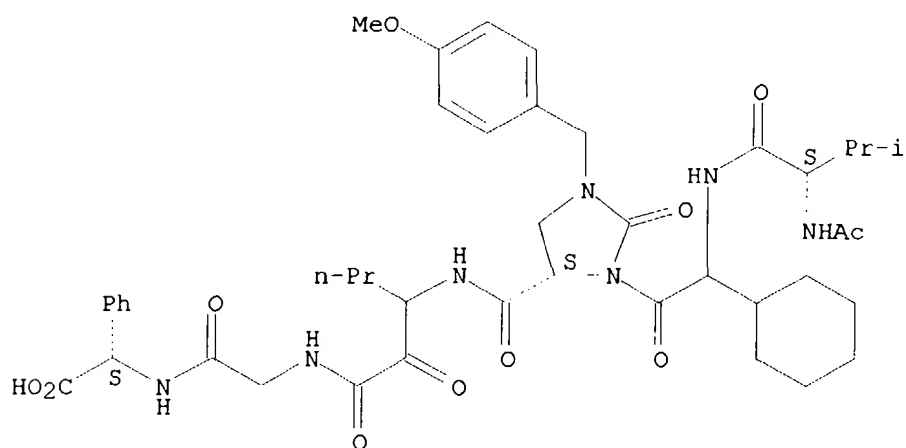
Lukton 10/909077



RN 393547-93-8 CAPLUS

CN Glycine, N-acetyl-L-valyl-2-cyclohexylglycyl-(4S)-1-[(4-methoxyphenyl)methyl]-2-oxo-4-imidazolidinecarbonyl-3-amino-2-oxohexanoylglycyl-2-phenyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

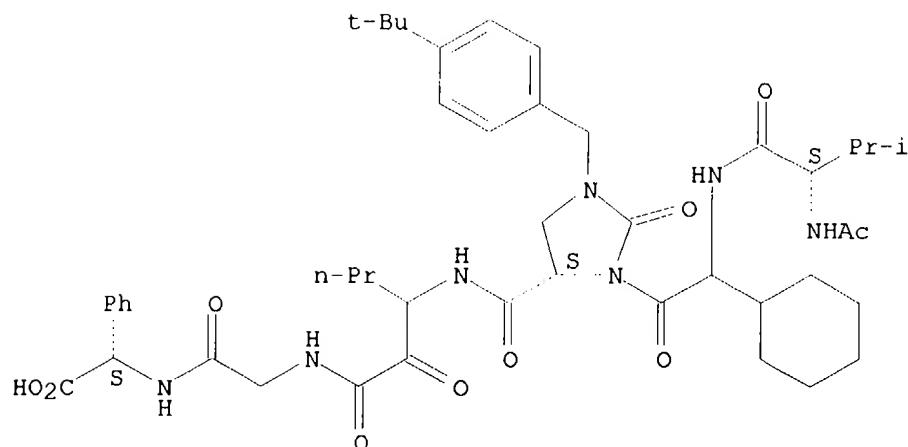


RN 393547-95-0 CAPLUS

CN Glycine, N-acetyl-L-valyl-2-cyclohexylglycyl-(4S)-1-[[4-(1,1-dimethylethyl)phenyl]methyl]-2-oxo-4-imidazolidinecarbonyl-3-amino-2-oxohexanoylglycyl-2-phenyl-, (2S)- (9CI) (CA INDEX NAME)

- Absolute stereochemistry.

Lukton 10/909077



L4 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN  
ACCESSION NUMBER: 2000:513715 CAPLUS  
DOCUMENT NUMBER: 133:129864  
TITLE: Pyroglutamic acid derivatives and related compounds  
which inhibit leukocyte adhesion mediated by VLA-4,  
and preparation thereof  
INVENTOR(S): Dressen, Darren B.; Kreft, Anthony; Kubrak, Dennis;  
Mann, Charles William; Pleiss, Michael A.; Stack, Gary  
Paul; Thorsett, Eugene D.  
PATENT ASSIGNEE(S): Elan Pharmaceuticals, Inc., USA; American Home  
Products Corporation  
SOURCE: PCT Int. Appl., 187 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000043413	A2	20000727	WO 2000-US1537	20000121
WO 2000043413	A3	20001130		
W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
CA 2358093	AA	20000727	CA 2000-2358093	20000121
EP 1144435	A2	20011017	EP 2000-904486	20000121
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO			
US 6407066	B1	20020618	US 2000-489164	20000121
US 2003027771	A1	20030206	US 2002-139382	20020507
PRIORITY APPLN. INFO.:			US 1999-198244P	P 19990126

Lukton 10/909077

US 1999-238661 A1 19990126  
US 2000-489164 A1 20000121  
WO 2000-US1537 W 20000121

OTHER SOURCE(S): MARPAT 133:129864

AB Pyroglutamic acid derivs. and related compds. that bind VLA-4 are disclosed. Certain of these compds. also inhibit leukocyte adhesion and, in particular, leukocyte adhesion mediated by VLA-4. Such compds. are useful in the treatment of inflammatory diseases in a mammalian patient, e.g., human, such as asthma, Alzheimer's disease, atherosclerosis, AIDS dementia, diabetes, inflammatory bowel disease, rheumatoid arthritis, tissue transplantation, tumor metastasis, and myocardial ischemia. The compds. can also be administered for the treatment of inflammatory brain diseases such as multiple sclerosis.

IT 286456-80-2

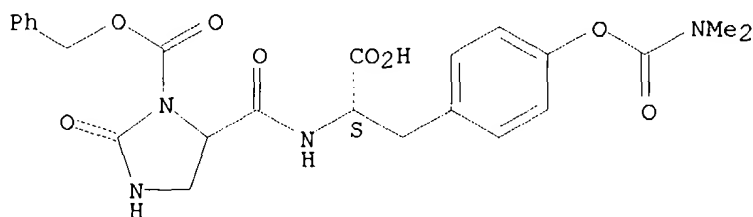
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(pyroglutamic acid derivs. and related compds. which inhibit VLA-4-mediated leukocyte adhesion, and preparation thereof)

RN 286456-80-2 CAPLUS

CN 1-Imidazolidinecarboxylic acid, 5-[[[(1S)-1-carboxy-2-[4-[[[(dimethylamino)carbonyl]oxy]phenyl]ethyl]amino]carbonyl]-2-oxo-, 1-(phenylmethyl) ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L4 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1986:497932 CAPLUS

DOCUMENT NUMBER: 105:97932

TITLE: Synthesis of thyrotropin-releasing hormone analogs.

2. Tripeptides structurally greatly different from

TRH with high central nervous system activity

AUTHOR(S): Szirtes, Tamas; Kisfaludy, Lajos; Palosi, Eva;

Szporony, Laszlo

CORPORATE SOURCE: Chem. Works, Gedeon Richter, Ltd., Budapest, H-1475, Hung.

SOURCE: Journal of Medicinal Chemistry (1986), 29(9), 1654-8

CODEN: JMCMAR; ISSN: 0022-2623

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 105:97932

AB Seventeen title analogs, e.g. pAad-X-Pro-NH<sub>2</sub> (I; pAad = L-pyro-2-aminoadipic acid; X = Leu, Nva), Blc-Leu-Pro-NH<sub>2</sub> [Blc = (S)-γ-butyrolactone-γ-carboxylic acid), pyroGlu-Leu-Pip-NH<sub>2</sub> (II, Pip = L-pipecolic acid), and pAad-Nva-Tca-NH<sub>2</sub> (III, Ica = L-thiazolidine-4-carboxylic acid), were prepared by solution methods via couplings by the pentafluorophenyl ester method. The peptides were tested



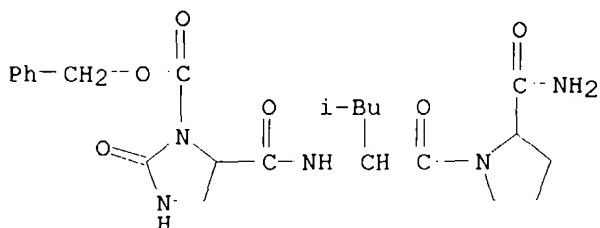
for CNS and thyrotropin-releasing activity. Seven of the analogs, e.g., I, II, and III, have stronger anticataleptic effect than TRH with negligible or no hormonal potency. I exhibited the highest CNS activity.

IT **102922-73-6P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and deblocking of)

RN 102922-73-6 CAPLUS

CN L-Prolinamide, N-[[2-oxo-3-[(phenylmethoxy)carbonyl]-4-imidazolidinyl]carbonyl]-L-leucyl-, (S)- (9CI) (CA INDEX NAME)



L4 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1977:121785 CAPLUS

DOCUMENT NUMBER: 86:121785

TITLE: Dipeptides

PATENT ASSIGNEE(S): Chemie Gruenenthal G.m.b.H., Fed. Rep. Ger.

SOURCE: Neth. Appl., 26 pp.

CODEN: NAXXAN

DOCUMENT TYPE: Patent

LANGUAGE: Dutch

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
NL 7510288	A	19760421	NL 1975-10288	19750901
NL 183764	B	19880816		
NL 183764	C	19890116		
ZA 7206620	A	19730725	ZA 1972-6620	19720927
AU 7247113	A1	19740404	AU 1972-47113	19720927
IT 987571	A	19750320	IT 1972-29950	19720930
GB 1413822	A	19751112	GB 1972-45834	19721004
GB 1413823	A	19751112	GB 1975-27168	19721004
DE 2249860	A1	19730530	DE 1972-2249860	19721011
FR 2187155	A5	19740111	FR 1972-36439	19721013
JP 48061888	A2	19730829	JP 1972-103166	19721014
DE 2449167	A1	19760422	DE 1974-2449167	19741016
DE 2449167	C2	19840524		
DE 2527723	A1	19761230	DE 1975-2527723	19750621
SE 7509728	A	19750902	SE 1975-9728	19750902
JP 52003080	A2	19770111	JP 1976-596	19760101
JP 59036612	B4	19840905		
AT 7707219	A	19790615	AT 1977-7219	19771010
AT 354658	B	19790125		
PRIORITY APPLN. INFO.:			DE 1974-2449167	19741016
			DE 1975-2527723	19750621

Lukton 10/909077

US 1971-189252 19711014  
AT 1975-6044 19750804

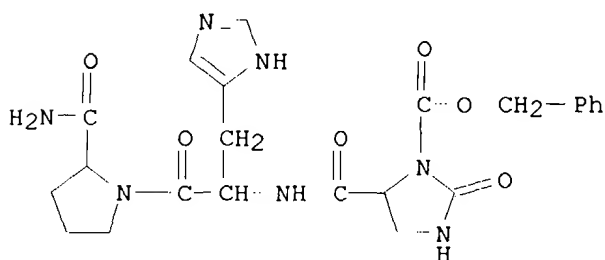
AB RCONHCR1R2CO-His-Pro-NH2 (I, RR1 = NHCH2, CH2SCH2, CHMeSCH2, CH2SCMe2, R2 = H; R-R2 = NHCOCH3, NHCOCMe, NHCOCET, NHCOCPr) were prepared by acylating H-His-Pro-NH2.2HBr. I are thyrotropin-releasing hormone analogs with prolonged activity.

IT 59760-03-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and deblocking of)

RN 59760-03-1 CAPLUS

CN L-Prolinamide, N-[[2-oxo-3-[(phenylmethoxy)carbonyl]-4-imidazolidinyl]carbonyl]-L-histidyl-, (S)- (9CI) (CA INDEX NAME)



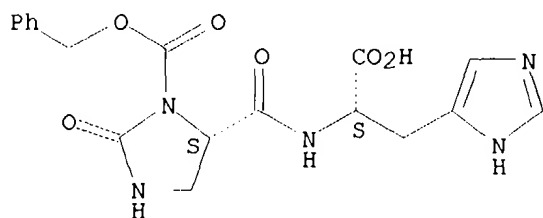
IT 59760-02-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and reaction of, with prolinamide)

RN 59760-02-0 CAPLUS

CN L-Histidine, N-[[2-oxo-3-[(phenylmethoxy)carbonyl]-4-imidazolidinyl]carbonyl]-, (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L4 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1976:447062 CAPLUS

DOCUMENT NUMBER: 85:47062

TITLE: Dipeptide derivatives

INVENTOR(S): Schwertner, Eberhard; Herrling, Siegfried

PATENT ASSIGNEE(S): Chemie Gruenenthal G.m.b.H., Fed. Rep. Ger.

SOURCE: Ger. Offen., 21 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

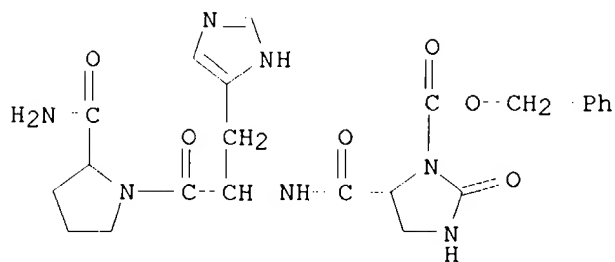
LANGUAGE: German

FAMILY ACC. NUM. COUNT: 2

## PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2449167	A1	19760422	DE 1974-2449167	19741016
DE 2449167	C2	19840524		
US 3876872	A	19750408	US 1971-189252	19711014
ZA 7206620	A	19730725	ZA 1972-6620	19720927
AU 7247113	A1	19740404	AU 1972-47113	19720927
IT 987571	A	19750320	IT 1972-29950	19720930
GB 1413822	A	19751112	GB 1972-45834	19721004
GB 1413823	A	19751112	GB 1975-27168	19721004
DE 2249860	A1	19730530	DE 1972-2249860	19721011
FR 2187155	A5	19740111	FR 1972-36439	19721013
JP 48061888	A2	19730829	JP 1972-103166	19721014
AT 348694	B	19790226	AT 1975-6044	19750804
NL 7510288	A	19760421	NL 1975-10288	19750901
NL 183764	B	19880816		
NL 183764	C	19890116		
SE 408300	C	19790913	SE 1975-9703	19750901
SE 408300	B	19790605		
ZA 7505956	A	19760825	ZA 1975-5956	19750918
JP 51065775	A2	19760607	JP 1975-122966	19751014
JP 60009518	B4	19850311		
ES 441788	A1	19770616	ES 1975-441788	19751014
DK 7504637	A	19760417	DK 1975-4637	19751015
DK 149063	B	19860106		
DK 149063	C	19860616		
FR 2287916	A1	19760514	FR 1975-31599	19751015
CA 1056818	A1	19790619	CA 1975-237665	19751015
CH 616913	A	19800430	CH 1975-13382	19751015
BE 834590	A1	19760416	BE 1975-161007	19751016
US 4045556	A	19770830	US 1975-622804	19751016
AT 7707218	A	19790615	AT 1977-7218	19771010
AT 354657	B	19790125		
AT 7803009	A	19800515	AT 1978-3009	19780426
AT 360186	B	19801229		
PRIORITY APPLN. INFO.:			US 1971-189252	19711014
			DE 1974-2449167	19741016
			DE 1975-2527723	19750621
			AT 1975-6044	19750804
AB	Treatment of L-histidine with the N-hydroxysuccinimide ester of N-benzyloxycarbonyl-L-2-oxoimidazolidine-4-carboxylic acid followed by L-prolinamide and debenzyloxycarbonylation gave L-2-oxoimidazolidine-4-carbonyl-L-histidyl-L-prolinamide. Condensation of orotic acid or L-5-oxothiomorpholine-3-carboxylic acid with His-Pro-NH <sub>2</sub> .2HBr gave orotyl- or L-5-oxothiomorpholine-3-carbonyl-L-histidyl-L-prolinamide.			
IT	<b>59760-03-1P</b>			
	RL: SPN (Synthetic preparation); PREP (Preparation)			
	4 (preparation and partial deblocking of)			
RN	59760-03-1 CAPLUS			
CN	L-Prolinamide, N-[[2-oxo-3-[(phenylmethoxy)carbonyl]-4-imidazolidinyl]carbonyl]-L-histidyl-, (S)- (9CI) (CA INDEX NAME)			

Lukton 10/909077



IT 59760-02-0P

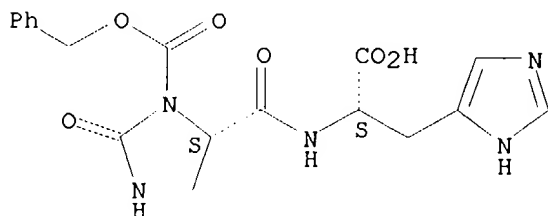
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and peptide coupling reactions of)

RN 59760-02-0 CAPLUS

CN L-Histidine, N-[[2-oxo-3-[(phenylmethoxy)carbonyl]-4-imidazolidinyl]carbonyl]-, (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L4 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1974:95951 CAPLUS

DOCUMENT NUMBER: 80:95951

TITLE: Optically active (+)-lactones

INVENTOR(S): Aoki, Yasuhiko; Suzuki, Hiroyuki; Akiyama, Hisao; Okano, Shigeru

PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd.

SOURCE: Ger. Offen., 39 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2331244	A1	19740110	DE 1973-2331244	19730619
DE 2331244	B2	19770714		
JP 49020196	A2	19740222	JP 1972-63032	19720622
JP 55016435	B4	19800501		
JP 49117467	A2	19741109	JP 1973-33912	19730323
JP 53035076	B4	19780925		
DD 111577	C	19750220	DD 1973-178686	19730521
FR 2197887	A1	19740329	FR 1973-22513	19730620
CS 183705	P	19780731	CS 1973-4433	19730620

SE 413245	B	19800512	SE 1973-8696	19730620
SE 413245	C	19800828		
DD 107932	C	19740820	DD 1973-171725	19730621
CA 1020561	A1	19771108	CA 1973-174628	19730621
BE 801295	A1	19731226	BE 1973-132590	19730622
NL 7308766	A	19731227	NL 1973-8766	19730622
US 3876656	A	19750408	US 1973-372606	19730622
AT 325038	B	19750925	AT 1973-5489	19730622
HU 167852	P	19751225	HU 1973-SU821	19730622
GB 1420509	A	19760107	GB 1973-29838	19730622
GB 1420510	A	19760107	GB 1974-54494	19730622
ES 416193	A1	19760616	ES 1973-416193	19730622
PL 90072	P	19761231	PL 1973-163520	19730622
PL 92570	P	19770430	PL 1973-183191	19730622
CH 593286	A	19771130	CH 1973-9111	19730622
DK 137333	B	19780220	DK 1973-3488	19730622
CH 602740	A	19780731	CH 1977-6870	19730622
US 4014895	A	19770329	US 1974-532477	19741213
US 532477	A1	19760413		
AT 7410267	A	19760915	AT 1974-10267	19741223
AT 336602	B	19770510		
DK 7503626	A	19750811	DK 1975-3626	19750811
DK 139155	C	19790625		
DK 139155	B	19790102		

## PRIORITY APPLN. INFO.:

JP 1972-63032	A	19720622
JP 1973-33912	A	19730323
AT 1973-5489	A	19730622
CH 1973-9111	A	19730622
DK 1973-3488	A	19730622
US 1973-372606	A3	19730622

GI For diagram(s), see printed CA Issue.

AB The biotin intermediate I was prepared by asym. synthesis from the imidazolidinedicarboxylic acid II (R = R1 = CO2H). Thus II (R = R1 = CO2H) was treated with an optically active amine R2NH2 (R2 = CHMePh, CH(OH)CH2Ph, etc.) to give II (R = CONHR2, R1 = CO2H) and its cyclic imine, which were reduced to II (R = CONHR2, R1 = CH2OH) and cyclized by acid to I with loss of R2NH2. Treatment of I with NaSH gave the thienoimidazolidinone III (R3R4 = O), which was subjected to Grignard reaction with Br(CH2)3OEt, dehydrated, and reduced to III (R3 = (CH2)3OEt, R4 = H) and cyclized with acid to the imidazothienolium salt. Treatment of the salt with CH2(CO2Et)2 and acid hydrolysis gave III [R3 = (CH2)3CH(CO2H)2], which was decarboxylated to biotin.

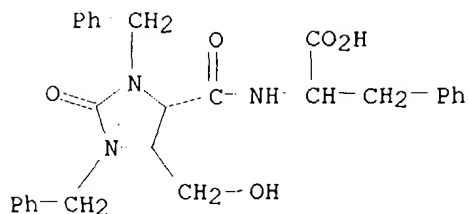
IT **51591-95-8P**

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

RN 51591-95-8 CAPLUS

CN L-Phenylalanine, N-[[5-(hydroxymethyl)-2-oxo-1,3-bis(phenylmethyl)-4-imidazolidinyl]carbonyl]-, (4R-cis)- (9CI) (CA INDEX NAME)

4



L4 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1969:58271 CAPLUS

DOCUMENT NUMBER: 70:58271

TITLE: Selective chemical cleavage of asparagine peptides

AUTHOR(S): Shiba, Tetsuo; Koda, Akio; Kusumoto, Shoichi; Kaneko, Takeo

CORPORATE SOURCE: Osaka Univ., Toyonaka, Japan

SOURCE: Bulletin of the Chemical Society of Japan (1968), 41(11), 2748-53

CODEN: BCSJA8; ISSN: 0009-2673

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Asparagine peptide was selectively cleaved by the Hofmann rearrangement followed by an alkaline treatment at the peptide linkage in which an amino group of the asparagine residue participated. Upon reaction of Z-L-Ala-L-Asn (Z = PhCH2O2C) with 1 equivalent of Br and 3 equivalent of aqueous NaOH

solution at 60°, 1-(N-benzyloxycarbonyl-L-alanyl)-2-oxoimidazolidine-5-carboxylic acid was obtained in quant. yield. When this was treated with an aqueous MeOH NaOH solution at room temperature, a cleavage reaction occurred to give

N-benzyloxycarbonyl-L-alanine and 2-oxoimidazolidine-5-carboxylic acid.

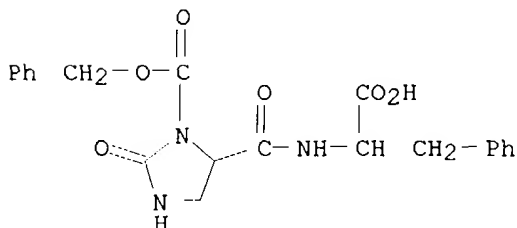
Under the same condition of the rearrangement, Z-L-Asn-L-Phe was converted to 1-benzyloxycarbonyl-2-oxoimidazolidine-5-carboxylic acid. Since glutamine peptide could not give the corresponding ring compound, this cleavage reaction was specific to asparagine peptide.

IT **21467-19-6P**

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

RN 21467-19-6 CAPLUS

CN 1-Imidazolidinecarboxylic acid, 4-[[[1-carboxy-2-phenylethyl]amino]carbonyl]-2-oxo-, 1-(phenylmethyl) ester (9CI) (CA INDEX NAME)



Lukton 10/909077